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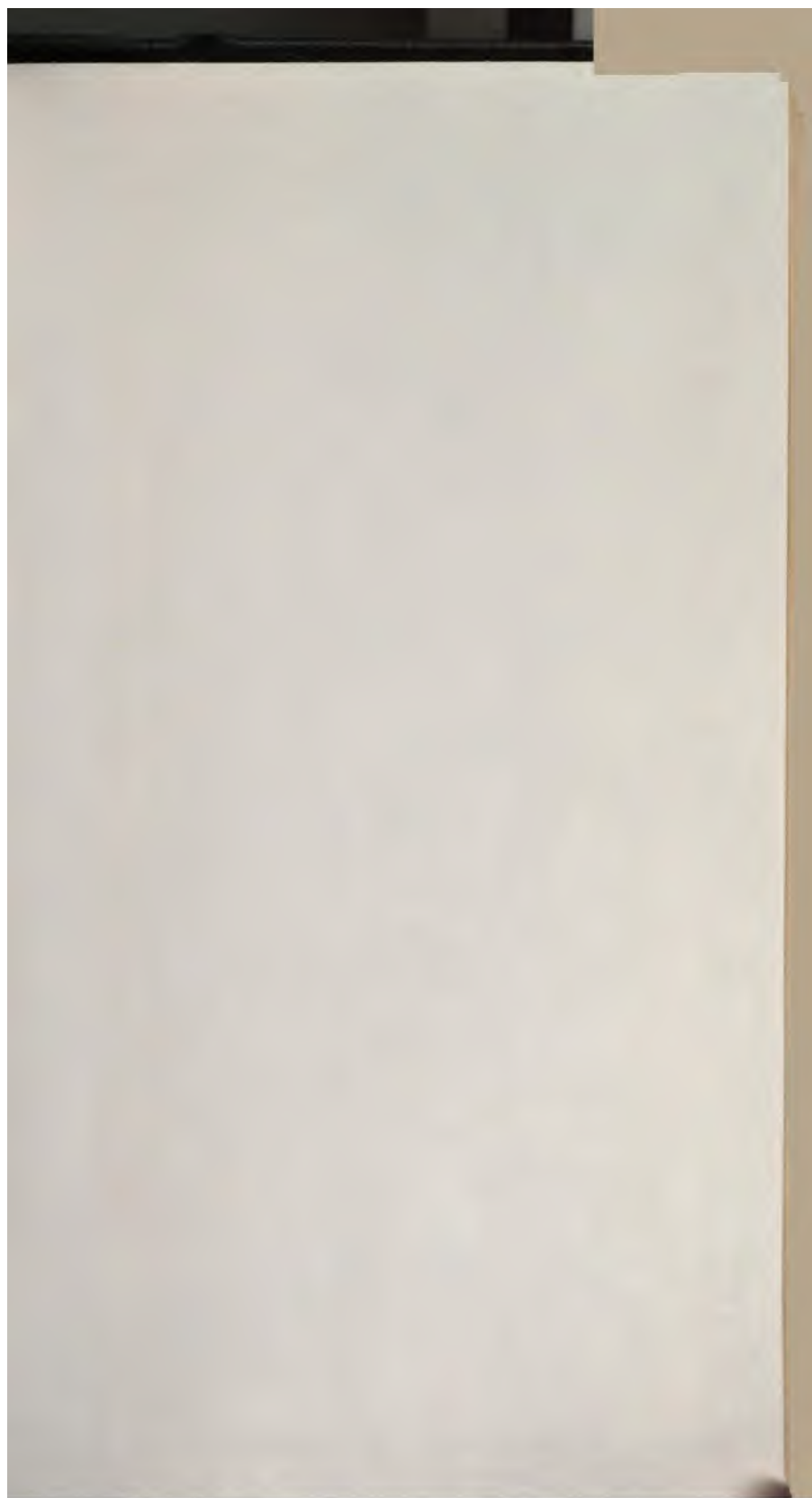
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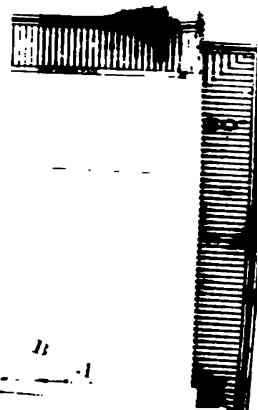












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A M E R I C A

AND

THE WEST INDIES,

GEOGRAPHICALLY DESCRIBED.

BY

PROFESSOR LONG,

EDITOR OF THE PENNY CYCLOPÆDIA;

GEORGE RICHARDSON PORTER,

AUTHOR OF PROGRESS OF THE NATION;

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ETC.

L O N D O N :
CHARLES KNIGHT AND CO., LUDGATE HILL.
1845.

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P R E F A C E.

THE main object of the present work has been to collect and to arrange in a systematic form, the materials which exist for a Geographical Description of the American Continent. Within the present century, and even within the last ten years, large additions have been made to our knowledge of the New World, particularly by the surveys and expeditions under the direction of the British Government, and also by the labours of enterprising travellers of this and other countries. But it may be safely asserted that there is at present no work in the English language, which can claim the merit even of attempting to combine these scattered materials, and to arrange them in a form approaching to scientific exactness. It is not intended to say that this has been accomplished in the present work, but it has been attempted. He who first undertakes to bring into form the scattered elements of any subject, can only accomplish his task imperfectly; but the attempt has its value, if it is based on a right principle. It is only in this way that any branch of knowledge can be improved. The whole matter of a thing must first be brought within certain limits, and reduced to a certain form, which has the same kind of resemblance to a perfect form that the first rude delineations of a country bear to the complete map. The present work has attempted to collect and select the best materials that exist, and to put them into such a shape, that the details may hereafter be corrected without interfering with the general plan.

A work of this description must always be imperfect. The physical features of the world, indeed, undergo comparatively small change within such limits of time as we are concerned with; but even here constant correction of existing information is required, and additions are daily making to our know-

ledge. A geographical description of the physical features of any country is only a systematic exhibition of what is known, or considered as known, at any given time. It expects and requires constant correction ; but if the method on which such a description has been formed is adequately and fully conceived, the method is as valuable at any future time as it is at the present, though nearly every detail may have required and received correction.

That part of a geographical treatise which is commonly considered as belonging to the department of Political Geography, and which may with no great impropriety be referred to the department of Statistics, is perhaps less susceptible of accuracy than the description of the physical features of a country ; and it is also subject to the further disadvantage of continual change. Still such an exhibition of the Statistics of a country as we possess at any given time retains its general value for many years, and it is always useful as an historical record. The present work aims at less completeness in this department than in that of physical geography ; but the best accessible materials have been used for this part of the work, and it is made as complete as is consistent with the limits within which the whole is confined.

The authorities which have been referred to are given in various parts of the book. Owing to the great diversity in the modes of writing proper names, some inconsistency in this respect may be detected. Several hands have contributed to this work. The part from page 1 to page 69 was written by William Wittich, teacher of German in University College, London ; with the exception of the statistical matter in the description of the West Indian islands, which was added by George Richardson Porter, of the Board of Trade.

Mr. Wittich also wrote the part from page 70, where the 'General View of North America' commences, to the end of page 197.

The description of the United States of North America, from page 198 to page 352, is by George Tucker, author of the 'Life of Jefferson,' and Professor of Moral and Political Philosophy in the University of Virginia.

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The part from page 353, beginning with 'British North America,' to page 417, was also written by Mr. Porter ; with the exception of the description of New Brunswick, which was written by George Long. The part from page 417 to page 448, comprehending 'Lower Canada' and the 'North-Eastern Boundary of the United States,' was also written by George Long.

The remarks on the 'Political History' of Canada, from page 448 to page 454, are by Henry S. Chapman. The remainder of the work, from page 454 to the end, is by William Wittich.

The plan of the work was formed by George Long, who has superintended its execution, as Editor, and has also made the Index.

GEORGE LONG.

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AMERICA, or the New Continent, approaches nearer to the south pole than the other great divisions of the globe. The most southern point of the continent is Cape Froward, in the peninsula of Brunswick, on the straits of Magalhaens, which reaches to nearly 54° S. lat., and is therefore almost twenty degrees farther south than the southern extremity of Africa. Cape Horn, the southern extremity of the Antarctic Archipelago, commonly called Tierra del Fuego, is still two degrees farther south. The most northern point of the American continent is Cape Barrow, north east of Behring's Strait, which lies between 71° and 72° N. lat. The Arctic Archipelago, which extends to the north of this continent, approaches much nearer to the north pole than the Antarctic Archipelago does to the south pole: some parts of it advance even to 78° N. lat.; but its utmost limits have not yet been ascertained.

The most eastern point of America is Cape Branco, between Cape St. Roque and Cape St. Agostinho in Brazil, being in $34^{\circ} 27'$ W. long.; and the most western is Cape Prince of Wales, on Behring's Strait, which is in 167° W. long.

The whole length of the American continent, in a straight line, is about 9000 miles. Its greatest breadth, south of the Equator, is between Cape St. Roque in Brazil and Cape Paríña in Peru, between 4° and 7° S. lat., where it is more than 3250 miles wide. North of the equator the greatest breadth is near the parallel of 45° between Cape Canso in Nova Scotia and Cape Lookout, where it is more than 3100 miles in width.

As the extent of the Arctic Archipelago, and of some parts of the continent, is nearly unknown, it is impossible to calculate the surface of

the whole continent and of the islands which may be considered as its appendages. The common estimates vary from 13 to 15 millions of square miles. The continental part, probably, does not exceed 12,000,000 of square miles.

America is bounded on the east by the Atlantic Ocean, which separates it from Europe and Africa; and on the west by the Pacific, which divides it from Asia and Australia. It approaches nearest to Europe between 69° and 71° N. lat., where the coasts of Greenland are only about 900 miles from those of Norway. Cape St. Roque, in Brazil, about 5° S. lat., is nearly 1800 miles from the coast of Sierra Leone, in Africa. The distance between the old and new world, measured across the Atlantic, is least at these two points just mentioned. It is greatest in the parallel of 30° N. lat., where the peninsula of Florida and the western coasts of Morocco are more than 4200 miles asunder.

The North-west part of America is divided from Asia by Behring's Strait, which is hardly more than 48 miles wide in the narrowest part between Cape Prince of Wales and East Cape. But the coasts of the two continents farther south rapidly recede from one another; and at about $54^{\circ} 30'$ N. lat., between the western point of the peninsula of Alashka and Kronotskoi Noss, in Kamtchatka, they are upwards of 1200 miles apart. Near the northern Tropic, Cape St. Lucas, in California, is about 8500 miles distant from the coast of China east of Canton; and this may be considered as nearly the average width of the Pacific Ocean between the Tropics. Near the southern Tropic, Sand Cape, in Australia, is about 8200 miles from the northern coast of Chili.

The extent of the northern coast of America cannot yet be accurately calculated, as that portion of it which lies between Point Turnagain (109° W. lat.) and the northern branches of Hudson's Bay, with the exception of a comparatively small portion, is still unknown. The coast of North America, along the Atlantic, beginning at Hudson's Straits, and terminating at the Gulf of Darien, is about 9300 miles in length; and the coast of South America to the Straits of Magalhaens is about 9000 miles. The western coast, from the Straits of Magalhaens to Cape Prince of Wales, may be about 15,000 miles. The whole coast of this continent, therefore, comprehends about 33,300 miles; and if we assume the surface of the continent to be 12,000,000 square miles, we find that there is one mile of accessible coast for every 360 square miles.

It is the general opinion, that the climate of America is colder than that of the old continent, and it has even been laid down, as a principle, that the difference is equivalent to about 8 or 10 degrees of latitude; so that those places only which differ by this amount in their geographical position can be compared with one another as to their temperature. This principle has been deduced from observations made on the western shores of the old, and on the eastern shores of the new continent; and

it holds good to a considerable extent, if we compare the climate of Europe and Africa with that of America. But if we apply this principle to the climate of eastern Asia, it will be found erroneous, and it will appear that the climate of America is not colder than that of eastern Asia. The temperature of Peking and of Philadelphia do not differ materially; and as much snow falls on the great Chinese plain, on the banks of the Yan-tse-kiang, as on the banks of the Mississippi at Natchez.

The most northern agricultural establishment, at Carlton House, on the river Saskatchewan, is about $52^{\circ} 50'$ N. lat., but there can be no doubt that, with more experience of the seasons, agriculture in North America will be carried much farther north. In Asia, the most northern places to which cultivation has extended, are situated in Kamtschatka, in the sheltered valley of the river of the same name, in $56^{\circ} 30'$; but in Europe, on the northern coast of Norway barley is cultivated as far north as Alten. (70° N. lat.)

This superior degree of temperature in Europe and Africa is attributable merely to local circumstances. In Africa it is chiefly owing to the extensive sandy deserts, which in America, where they exist, produce a similar effect. Dr. Coulter* observed the thermometer to rise to 140° of Fahrenheit, in the desert, near the mouth of the Rio Colorado (32° N. lat.)—a degree of heat which is hardly surpassed on the banks of the Senegal. The superiority of the climate of Europe over that of America depends also on local circumstances; but the causes of the superiority which have been assigned to it do not seem sufficient to explain so great a difference as actually exists. It is, however, remarkable that the western coasts of North America approach much nearer in temperature to the climate of Europe than the eastern coasts.

In comparing the two Americas with one another, the climate of South America seems superior to that of North America. The temperature of Buenos Ayres, in $34^{\circ} 30'$ N. lat., is equal to that of New Orleans or Charlestown: the same may be said of that of Valparaiso. The difference in the temperature of the two parts of this continent may be equivalent to about 4 or 5 degrees of latitude; and may partly be explained by the circumstance that, in North America, the highest ground, which runs east and west, is between 45° and 48° N. lat., whilst in South America it lies between 15° and 20° S. lat. To this may be added the extremely level surface of the extensive plains, which occupy the greatest part of the surface of South America. The superiority in climate of South America over North America, however, is limited to the countries N. of 50° S. lat.; for, to the south of that line, the cold appears to increase more rapidly than in the countries which lie towards the north pole.

* London Geographical Journal, 1835, Vol. V. p. 62.

When America was discovered, it was soon observed that the animal as well as the vegetable products of this continent differed materially from those of the old world. The number of useful plants and animals common to the two continents was comparatively small, and an exchange between them took place, which has been greatly to the advantage of America. The cerealia of Europe and Asia were not known to the ancient inhabitants of America. The maize or Indian corn, the mandiocca or cassava root, the cotton plant and the banana, were the articles to which the very limited agriculture of the native tribes was confined. Among the vegetable productions peculiar to America the most remarkable are, the potato, tobacco, cocoa, the pine-apple, vanilla, the cherimoya, annotto, the sugar-maple, the mahogany-tree, sassafras, quassia, jesuits' bark, and many dye-woods and medicinal drugs. The first four have been transplanted into the old continent. Besides the cerealia of Europe, and some of those of Asia, nearly all the fruit-trees of Europe, and a considerable number of those of Asia, have been transplanted into America, as well as coffee, sugar and indigo, which now form the staple products of many parts of the new world.

The Aborigines of America had no domestic animals, except the llama, dogs, and perhaps some kinds of fowls. The existing wild animals of America are generally inferior to those of the old continent in size, strength, and ferocity; but the alluvial soils contain in abundance the bones of extinct animals of extraordinary size, now commonly known under the names of *megatheriidae*, *mastodon*, &c.

Many of the wild animals of America have received the names of similar species found on the old continent; but, on more careful examination, it appears that there is a considerable difference between them. It is remarkable that the number of animals common to both continents is very small, and that they are almost entirely limited to the fur-bearing animals, aquatic birds, and fishes. Many of the fur-bearing animals and aquatic birds found in North America do not differ from those of Siberia. But, in South America, there are no fur-bearing animals except the fur seals, which inhabit the detached islands of the Antarctic Archipelago (New Georgia and New Shetland Islands), and the *Islas de Lobos* in the La Plata river. Nearly all the wild animals of South America are peculiar to that continent.

The larger animals of South America are the llama and the tapir: the former is only found in the Andes, but the tapir occurs also in the eastern portion of the Mexican Isthmus and in the plains of South America. The jaguar or American panther, is confined to South America; but the puma, which is most numerous in the Andes, occurs also on the Mexican Isthmus, and as far north as 50° N. lat. The species of monkeys are numerous and different from those of the old continent; only a few of them extend to the Mexican Isthmus and to some southern districts of North America. The ai and sloth, the armadillo, the chla-

myphore, and the ant-eater are peculiar to South America. The spectacled bear occurs only in the Andes. The agoutis are also confined to South America and the Columbian Archipelago, except the common agouti, which occurs as far north as Carolina. The didelphys is found only in South America, except one species, which is met with in Virginia. It is doubtful whether the wild hog occurs, the peccary being certainly different from it. The several species of deer in South America seem likewise to differ from those of the old continent.

Though North America has several animals in common with Asia, still the greater number are peculiar to it,—such as the bison or buffalo, the big-horned sheep, the Rocky Mountain goat, the musk-ox, and several kinds of deer, among which are some of great size, as the elk or moose-deer. The carnivorous animals are more numerous than in South America, and consist of several kinds of bears, among which the grisly bear is distinguished by its size and ferocity; there is also the Polar bear, and several kinds of wolves and foxes. There are also beavers, sea-otters, martens, racoons, squirrels, lynxes, musk-rats, wolverines, and hares, which yield fur.

The domestic animals, introduced from Europe, have increased with astonishing rapidity, especially cattle and horses, of which numerous herds, in a wild state, are found in the great plains of South America and also in some parts of North America.

Among the birds, which are peculiar to America, the condor of the Andes, and the American ostrich or emu, are distinguished by their size; and many others by their beauty,—as the flamingo, scarlet ibis, the humming-birds, the toucans, the quizal, and numerous species of macaws, parrots and parroquets. Most of them are confined to South America and the Mexican Isthmus. The turkey is found wild in North America.

There are several peculiar species of tortoises; and numerous snakes, among which are the boa constrictor and the rattlesnake. The iguanas, a species of lizard, furnish a delicate food. Among the frogs and toads, the most remarkable are the great bull-frog of North America, and the pipa of Surinam. Different kinds of whales abound in the seas surrounding America, both towards the north and south. The manatee, or sea-cow, occurs in several rivers of South America and of the Mexican Isthmus. Fish, in general, is very abundant; and in no part of the globe is fishing prosecuted on so extensive a scale as in America, with the exception of the seas surrounding the Indian Archipelago.

The population of America is chiefly composed of Aborigines, and of descendants of foreigners, who have settled in America since its discovery. Emigration from Europe is still continually adding to the numbers of the foreign stock.

The Aborigines constitute a separate race of men. They are stout, and

in general of a moderate height: but some tribes, as the Patagonians and Caribbees, are distinguished by their height and strength. Their complexion is of a reddish copper hue, frequently approaching the colour of mahogany; and it is observed that this colour does not appear to be subject to change from any influence of climate, or from the use of clothing. The inhabitants of Patagonia and of the Antarctic Archipelago have as dark a hue as the tribes which wander about on the banks of the Amazon river. They have generally a large head, a narrow forehead, prominent cheek-bones, and thick lips. Their hair is black, coarse, long, extremely lank and shining, and it very rarely grows white with advanced age. They have generally little hair on their chin, but they are not altogether beardless. Their eyes are rather small, narrow, and placed somewhat obliquely, their outer angles being a little turned up towards the temples. As some of these characteristic features, such as the colour of the skin and hair, the thinness of the beard, the prominent cheek-bones, and the position of the eyes, are likewise the distinguishing marks of the Mongol race, this resemblance in features gives some weight to the supposition that the Aborigines of America are descended from tribes belonging to the last-mentioned race. But this fact becomes doubtful when it is observed that the form of the skull is essentially different in the two races,—the forehead of the Americans being considerably inclined backwards, and with it the whole facial line; while, in the Mongols, it approaches much more to the form of the skull of the Caucasian race; and, although the cheek-bones of the Americans are as prominent as those of the Mongols, they are more rounded and not so angular.

The Esquimaux who inhabit the shores of America along the Icy Sea, and the islands of the Arctic Archipelago, doubtless belong to the Mongol race, and must have passed from Asia into America.

Considering the great similarity which the aboriginal tribes of America present in their bodily conformation, it might appear surprising that they speak so great a variety of languages. It has been estimated that the number of American languages exceeds five hundred, and it is probable that it is not less than six hundred. There are certainly many roots, which are common to most of them, but the languages themselves differ so far that the various tribes do not understand one another, or find it easy to acquire the languages of their neighbours. This is particularly the case with the languages spoken by the aboriginal tribes in South America. Some of these languages are limited to small tribes consisting of a very few families, whilst others are spoken over a great extent of country, and by many tribes. Of the latter, the most extended in South America seems to be the Quichua language, commonly called the language of the Incas, which is spoken in all the elevated valleys of the Andes from the Equator to the tropic of Capricorn. North of the Equator, in New Granada, the Maipuri and Galibic languages are spoken by many tribes. A considerable portion of the Indian population of Central America uses

the Quiché language, and the Aztek tongue is widely spoken over the table lands of Mexico. A greater similarity exists between the languages of the tribes which inhabit North America. That which is commonly called the Cree language is very widely diffused among the tribes east of the Rocky Mountains, and the roots of this language appear in the names of numerous rivers, lakes, and mountains. The language of the Esquimaux prevails among the tribes which inhabit the shores and islands of the Icy Sea.

The aboriginal tribes of America may be divided into three classes, with regard to the degree of civilisation which they have attained. The first class comprehends those who, at the time of the discovery of America by Europeans (1492), lived in regularly-formed societies; the second, those whose condition has in some degree been changed by their intercourse with foreigners; and the third, the savage tribes, who still adhere to the mode of life which they followed at the time of the discovery.

The first class is the most numerous, and comprehends more than half of the whole Indian population. They inhabit the elevated tablelands, or live in the valleys of the Andes. In Mexico there existed the well regulated and extensive kingdom of Anahuac; and, in the northern parts of central America, the smaller states of Quiché and Katchikel. The kingdom of Cundinamarca occupied a considerable part of the valleys of the republic of New Granada; and that of the Incas, or of Cuzco, extended from the line so far south as to comprehend the valley of the Desaguadero in Bolivia. In all these countries the natives lived in a regulated social state. They inhabited villages and towns, and applied themselves to agriculture. They had not only adopted the division of labour, but carried it to some extent. Property was secured by law; and custom and positive institutions together regulated the different orders in society. That they had attained a considerable degree of civilisation may be inferred from the numerous ruins of palaces, temples, and causeways which occur in several parts. The short time which the Spaniards required to conquer all these countries may be attributed to the fact, that the inhabitants, who were attached to the soil of which they were the proprietors, were able to furnish the invaders with all that they required for the maintenance of their armies. The discovery of America was a disastrous event to the Indians; it interrupted the course of civilisation, and, by occupying them perpetually with their defence, or the labour exacted from them by the invaders, it stopped all improvement. These Indians have therefore remained stationary since their conquest. The Spaniards, it is true, left their villages and smaller communities to be governed by persons chosen by the inhabitants; but they did nothing in other respects to improve the condition of the natives; and even the Roman Catholic clergy limited their exertions mostly to imparting to Indian superstitions the outward appearance of Christian rites.

All the other parts of America were inhabited by savage tribes, who

lived in small societies not regulated by well-established customs or laws. They had either not adopted agriculture, or had made very small progress in it; individual property in the soil was therefore nearly unknown. They gained their subsistence either by hunting or fishing; and frequently they united both occupations. It was impossible to reduce to subjection nations that lead such a course of life; and Europeans had accordingly a much more difficult task in dealing with such men than that of merely conquering them. They were reduced to the necessity of establishing colonies on the sea-coast, and of trying to get possession of the country in which they had settled. The progress of the colonists was slow, and their struggles with the natives long and often bloody. By purchase, by fraud, and by force, the white man gradually gained a secure footing; and now he occupies, as exclusive owner, the best part of the North American continent.

In South America, the members of several religious orders, especially the Jesuits, undertook the task of civilising the savage tribes, and by their perseverance succeeded in bringing about some change in their mode of life. This change, however, was limited to giving them some additional disposition towards agricultural pursuits, a greater attachment to landed property, and a taste for permanent dwellings and a more domestic and tranquil and less roving kind of life. But the mind of the Indians has not been improved. They betray a complete indifference to the religious tenets, though not to the ceremonies, of the Christian faith, and, in most cases, a decided aversion to adopt the manners and habits of the whites who live in their vicinity. The degree of civilisation which they have reached is in most places much below that of the first class. Small as this civilisation is, its progress has been very slow; for after the continued exertions of the priests for more than two hundred years, it has hardly extended as many miles from the coast into the interior, and many portions even of the sea-shore are still occupied by savage tribes which avoid all intercourse with Europeans. These natives (which form the third class) unite, in the colder countries of America, the occupation of the fisherman with the roving life of the hunter, but in the forests of South America they live peaceably in villages, obey some chief, and cultivate bananas, mandioca, and cotton in small quantity. They employ the cotton in weaving hammocks. At certain seasons of the year they leave their dwellings, and indulge in the pleasures of a roving life. Many of these tribes go entirely naked.

The number of the first class may amount to about 6,000,000; that of the second to 1,500,000; and the last is commonly estimated also at 1,500,000; but, as the last class still occupies more than one-half of the continent, this estimate seems somewhat too low.

The foreign nations that have settled in America since its discovery are either Europeans or negroes from Africa. All the Christian nations

of Europe have sent settlers to America. The English, Spaniards, and Portuguese form the greatest numbers: the Dutch, French, Germans, and Danes are much fewer. Sweden, Italy, and Russia have sent the smallest number of all. The Russians are only settled on the north-west coast.

The negroes have been carried to America as slaves, and employed in cultivating the soil; the greater part of them still continue in the state of slavery. With the exception of a number of slaves whom the Portuguese in Brazil imported from Mozambique, all the present negro population of America has been drawn from the western coast of Africa, between the mouth of the Senegal and Cabo Negro, or between 20° N. lat. and 20° S. lat.

By the intermixture of these three races, which differ so widely in complexion and other physical characters, new races have arisen, which are called *mixed races*. Metis, or Mestizos, owe their origin to the intermixture of Europeans with American women, and in Brazil are called Mameluccos; Mulattoes are the children of a white and negro; Zambos are the descendants of the Aborigines and persons belonging to the pure African race. Persons born of a mulatto or Metis woman and a European are called Quadroons or Quaterons, and if a Quateron marries a European the descendants are called Quinterons. In some parts, however, different names are given to these mixtures; and in other parts of America all such terms of distinction are unknown.

The descendants of the pure European race are sometimes called Creoles, except in Brazil, where this name is applied to the descendants of Africans. The Europeans themselves in Mexico are called Gachupines.

In comparison with the old continent, America is still very thinly inhabited. According to the most probable estimate its population amounts to about 48,000,000.

The numbers are supposed to be nearly as follow:—

Europeans, and descendants of Europeans	26,000,000
Aborigines	9,000,000
Negroes	6,000,000
Mixed races	7,000,000
	<hr/>
	48,000,000

It is farther assumed that

the English language is spoken by	20,000,000
the Spanish	13,000,000
the Portuguese	4,000,000
the French	1,500,000
the Dutch, German, Danish, Swedish, and Russian	500,000
the native languages	9,000,000
	<hr/>
	48,000,000

The great majority of the population profess, at least externally, the Christian religion. According to a rough calculation, the Roman Catholic faith numbers about 23 millions of followers, and the different denominations of the Protestant religion about 20. It is probable that the numbers of natives, who have not embraced the Christian faith amounts to somewhat more than 2 millions, and the number of negroes, who make no regular profession of faith, may be as great.

THE COLUMBIAN SEA AND THE COLUMBIAN ARCHIPELAGO, OR THE WEST INDIES.

EXTENT AND BOUNDARY. DIVISIONS. THE BAHAMA SEA. THE
CARIBBEAN SEA. THE GULF OF MEXICO.

THE *Atlantic Ocean*, which forms the eastern boundary of America, between 10° and 30° N. lat. extends far into that continent, forming a deep bay or rather a mediterranean sea, which might with great propriety be called the *Columbian Sea*, having been the principal scene of the active life of the great discoverer of America. It is generally called the Gulf of Mexico; which name, however, properly belongs only to the northern portion of it. It extends from east to west over 37° degrees, between 61° and 98° W. long., in a direction from south-east to north-west.

This mediterranean sea is inclosed on three sides by the continent of America; and even on the east it does not present an open expanse of water, being separated from the Atlantic by a chain of islands and banks. The boundary-line, by which it is thus separated from the ocean, may be supposed to begin on the north at the Strait of Florida, where the Matanilla Reef commences, in $27^{\circ} 30'$ N. lat. and 79° W. long. From this point it runs due south-east along the outer edge of the Bahama Islands and the banks to Crooked Island, between 22° and 23° N. lat. and 74° W. long., where it begins to decline somewhat more to the east, and continues in that direction to Point Bruquen, in the island of Puerto Rico. This island, and the cluster of islands which extend farther east, lie due east and west, and terminate in that direction with the island of Barbuda, between 17° and 18° N. lat., and near 62° W. long. From this island the boundary-line runs nearly due south, through 9° degrees of latitude, along the Windward Islands to Trinidad.

This inland sea is divided into two portions by the island of Cuba, which extends nearly across the Columbian Sea; and by the peninsula of Yucatan, which projects into it in a north north-east direction; these two portions are the *Caribbean Sea*, extending south and south-east from Cuba, and the *Gulf of Mexico*, extending north-west from that

island. In this division, that portion of the Columbian Sea, which lies between the island of Cuba and the Bahama Islands, is not comprehended: to this we would give the name of the *Bahama Sea*.

The *Bahama Sea* is dangerous to navigators on account of its intricacy and its currents. Between the southern extremity of Florida and the opposite coast of Cuba, at the Punta de Ycos, the gulf stream, which farther west is usually very weak, begins to run with great rapidity, and attains its greatest velocity in the Narrows, or the most narrow part of the Straits of Florida. It runs along the western side of the three banks, the Key Sal Bank, the Great Bahama Bank, and the Little Bahama Bank, and sets upon their shores. The banks themselves have from 5 to 20 fathoms water on their edges, but they are beset with rocks and numerous shoals, of which a few are dry at low water. The bottom of the banks consists of coral, covered with an accumulation of shells and calcareous sand. The Little Bahama Bank, which is the most northern, lies between $25^{\circ} 50'$ and $27^{\circ} 30'$ N. lat., and is separated from the Great Bahama Bank by Providence Channel. The Great Bahama Bank occupies nearly the whole sea between Providence Channel and Cuba, extending from 26° to 22° N. lat., and from 75° to $79^{\circ} 30'$ W. long.; it is 300 miles in length and about 120 in breadth, and is divided from Cuba by the Old Bahama Channel. It is remarkable that two rather extensive bays or gulfs of deep water enter far into the body of this bank. One begins in Providence Channel, to the west of the Island of Providence, whence it is called the Gulf of Providence. It extends nearly two degrees south-east, with an average breadth of 15 to 20 miles. The other, called the Exuma Sound, from the adjacent island of that name, lies nearly parallel to it, about 40 or 50 miles farther east, but its entrance is from the east and the Atlantic, and it extends north-west for about 80 miles, with an average breadth of 20 miles. Both the Little and the Great Bahama Banks have their edges towards the Atlantic. These gulfs and channels are full of islands and rocks, which, with some others farther south, are comprehended under the general name of the Bahama Islands. The Key Sal Bank, which turns the gulf stream to the north and sends it to the Straits of Florida, lies between the Great Bahama Bank and Cuba, between 23° and 24° N. lat., and is divided from the former by the Santarem Channel, and from the latter by Nicholas Channel, which unite farther to the south-east, and take the name of Old Bahama Channel. Key Sal Bank is of no great extent, and contains few rocks and islets.

The south-east portion of the Bahama Sea affords a much more easy and secure navigation: the banks about the small islands occur at greater distances, and are of much less extent. The Crooked Island Bank is separated from the Great Bahama Bank by the Crooked Island Passage. A wide open sea then follows, which contains the two

Inaguas and the island of Mariguana. Next in order is the Caicos Bank (between 21° and 22° N. lat.), which is separated from Turks' Island Bank by Turks' Island Passage; and Turks' Island Bank is separated from Mouchoir Carré Bank by Mouchoir Carré Passage. The last extensive bank is Silver Bank (Bayo de Plata), which is divided from Mouchoir Carré Bank by Silver Bank Passage. The small bank, called Navidad Bank (Bayo de Navidad), forms the last link of the chain, and lies in an open sea between Silver Bank and Point Bruquen in Puerto Rico.

There is no immediate connexion between the Bahama Sea and the Gulf of Mexico, except by the Straits of Florida. But two straits lead to the Caribbean Sea; the Windward Passage between Cuba and Hayti, and the Mona Passage between Hayti and Puerto Rico.

The *Caribbean Sea* comprehends the southern portion of the Columbian Sea, and is bounded by Cuba, Hayti, Puerto Rico, and the Leeward and Windward Islands, on the north and east, and on the other sides by the continent of America. A wide strait between Cabo St. Antonio, the western point of Cuba, and Cabo Catoche, the north-eastern point of Yucatan, unites it with the Gulf of Mexico. Numerous passages, which separate the Windward and Leeward Islands, unite this sea to the Atlantic.

The southern shores of the Caribbean Sea are generally high and rocky, and contain some gulfs of considerable extent. The Gulf of Paria divides the island of Trinidad from the continent; the Gulf of Venezuela, or Maracaibo, enters the continent between the peninsula of Paraguana and Cape Chichibacoa, and is connected with the lake of Maracaibo; the Gulf of Darien forms the most southern part of the sea, and extends between 75° and 80° W. long. to 8° N. lat. The western coast, which is in general low, contains the Mosquito Gulf and the Gulf of Honduras, both of which are open, but the latter terminates in a narrow inlet.

The navigation of this sea is in general clear and open, the islands being neither numerous nor extensive. Besides the large island of Jamaica, it contains some small rocky islands which lie along the southern shores from the Gulf of Paria to the peninsula of Paraguana, and a few smaller islands in the bay of Honduras. A few keys and rocky banks occur between the coast of Honduras and the islands of Jamaica and Cuba; they are more numerous in the recesses of the Gulfs of Darien and Honduras, and the southern shores of Cuba are thickly beset with them.

A current, which runs along the north-eastern coast of South America, enters the Caribbean Sea by the passages between the Windward Islands. Between Trinidad and Grenada it is strongest, and runs one mile or one mile and a half per hour: between St. Vincent and St. Lucie its rate is 21 miles per day; but, farther north, it diminishes gradually, so

that at the Virgin Islands it runs only 8 or 10 miles per day, which is not more than the common rate of the drift-current of the Atlantic. It appears that the force of the current is broken by passing between the islands, and it is not strong in the Caribbean Sea. In autumn it is even found to set eastward. At that season the wind, which for about nine months blows from the east along the shore, changes to north or even north-west, and before it is fairly settled in that quarter the westerly current ceases and begins to run eastward. Between Cape Catoche and Cape St. Antonio a current runs in all seasons from the Caribbean Sea into the Gulf of Mexico, but it is generally weak.

The *Gulf of Mexico*, or the north-western portion of the Columbian Sea, is free from banks, and contains only a few small rocky islands opposite the northern and north-western coasts of the peninsula of Yucatan, and the Florida Reef, which is towards the eastern extremity of the Gulf. The shores are low, and generally lined with flat sandy islands at a short distance from the shore. There are few harbours; and the rivers which fall into this sea have bars at their mouths. These circumstances render them almost inaccessible for vessels which require deep water.

The currents of this sea are very remarkable. The water brought from the Caribbean Sea, through the strait between Cape Catoche and Cape St. Antonio, soon divides: one portion, running to the east along the northern coast of Cuba, constitutes, to the east of Havanna, the Gulf Stream; the other flows westward, but it does not reach Vera Cruz. It follows a curve, drawn from Vera Cruz towards the north-east, so as to pass the parallel of $25\frac{1}{2}^{\circ}$ about the meridian of New Orleans; hence it continues to the east of south, and afterwards runs rapidly to the south-east as far as the entrance of the Straits of Florida, where the curved line terminates. This curve constitutes the southern boundary of the current. But the long, narrow alluvial islands and mud-banks along the coasts of Mexico, Louisiana, and Florida clearly indicate that a current runs there also. It seems, therefore, that the whole surface of the Gulf, between the curved line and the coast, is in a continual though slow motion, which may be considered as the origin of the Gulf Stream. For in the Straits of Florida it unites with the current which runs along the northern coast of Cuba, and it is only after this junction that the current begins to be remarkable for its velocity.

The Gulf of Mexico is characterized by the high temperature of its water, which is generally 86° , while in the ocean, in the same latitude, it does not exceed 76° or 78° , and even near the equator rarely 80° or 81° . Whether the circulation of the water, by means of the currents above indicated, contributes to this phenomenon, is not known; but it seems beyond all doubt that the high temperature of the water in the Gulf Stream is due to the high temperature of the water in the Gulf of Mexico.

The islands which divide the Columbian Sea from the Atlantic, together with those which are in the Columbian Sea, constitute the *Columbian Archipelago*, commonly called the *West Indies*.

COLUMBIAN ARCHIPELAGO, COMMONLY CALLED THE WEST INDIES.

Introduction. LESSER ANTILLES.—1. *General Observations.* 2. *Climate,* 3. *Productions.* 4. *Inhabitants.* 5. *Gulf of Paria, and Island of Trinidad.* 6. *Tobago, Grenada, Grenadines, St. Vincent, St. Lucie, Barbadoes.* 7. *Martinique, Dominica, Marie Galante, the Saintes, Guadeloupe, Desada.* 8. *Montserrat, Nevis, St. Christopher, St. Eustatius, Saba, Antigua, Barbuda, St. Bartholomew, St. Martin, Anguilla.* 9. *Virgin Islands, Anegada, Virgin Gorda, Tortola, St. John, St. Thomas, Culebra, Bique or Crab Island, Santa Cruz.* *GREATER ANTILLES*—10. *General Observations.* 11. *Climate.* 12. *Productions.* 13. *Puerto Rico.* 14. *Haïti.* 15. *Jamaica.* 16. *Cuba.* 17. *The Bahama Islands.* 18. *The Islands dispersed in the Caribbean Sea, Margarita with Coche and Cubagua, Curacao with Buen Ayre and Oruba.* 19. *The Islands in Mosquito and Honduras Bay, Roatan, the Caymans, Isla de Pinos.*

UNDER this denomination are comprehended all the islands which divide the Gulf of Mexico from the Atlantic Ocean, and also those which lie dispersed in the gulf itself. They are situated between 59° and 85° W. long., and between 10° and $27\frac{1}{2}^{\circ}$ N. lat., and are divided into three large groups, namely, the *Lesser Antilles*, the most southern group, which extends between 10° and 20° N. lat., and between 59° and 66° W. long.; the *Greater Antilles*, which lie between $17\frac{1}{2}^{\circ}$ and 23° N. lat., and 65° and 85° W. long.; and the *Bahama Islands*, which are situated between 21° and $27\frac{1}{2}^{\circ}$ N. lat., and 71° and 79° W. long. Besides these three groups, there are several small islands dispersed along the coast of the American continent. The surface of all these islands does not exceed 95,000 square miles, or about 12,000 square miles more than the surface of Great Britain: of this area the Greater Antilles occupy nearly 83,000 square miles, and consequently are about equal to the area of Great Britain.

As these islands lie in a curved line which extends from the north-eastern extremity of South America to the south-eastern extremity of North America, they are generally considered as the remains of a mountain-range, which at some remote period united both Americas on

the east of the Gulf of Mexico, as the long Mexican isthmus unites them on the west side of that inland sea. But the difference in the physical character of these groups of islands evidently shows that they have been formed at different epochs, in a different way, and under different circumstances. Most of the Lesser Antilles exhibit unequivocal signs of volcanic action, which leads to the presumption that they owe their origin to that powerful cause. The Greater Antilles, though some of their mountains attain a great elevation, do not exhibit such signs, and they consist of rocks of various formations like other mountain-ranges. The Bahama Islands, which are dispersed over extensive banks, have probably risen at a much later period from the depths of the ocean.

THE LESSER ANTILLES.

The *Lesser Antilles* are divided into the *Windward* and the *Leeward* Islands: the former lie between 10° and 15° N. lat., and the latter between 15° and 19° N. lat. The islands at the northern and southern extremities of the group exhibit either no signs, or only very slight signs, of volcanic agency; but those situated in the middle of the group, comprehending the islands between Grenada and St. Eustatius, consist either entirely or principally of volcanic rocks, with the exception of Barbadoes, which lies out of the line, and further to the east. The eastern shores of these islands are exposed to the trade-winds, and to the strong currents from the Atlantic Ocean, which set along their sides into the Mexican Gulf: they are rugged and abrupt, and generally rise with a steep ascent from the sea. Near these shores the trees are stunted and scanty, but further inland the vegetation is vigorous, and more so than on the western sides of the islands, as the air is continually refreshed by the trade-winds. The western sides of these islands contain some tracts of level and low country, but, being more exposed to the powerful action of the sun, and not enjoying the advantage of the trade-winds, their vegetation is less vigorous. The coast both on the east and west sides is rocky and high, and indented by numerous small bays and inlets, most of which have water enough for large vessels, and afford good anchorage generally in deep water.

2. The regular rotation of the seasons, as it exists in Europe, is not known in these islands. The year is divided into the dry and wet seasons. The dry season commences about the end of November, or at the beginning of December, and continues till the end of March. In this season only a few showers of rain fall, and the sky is cloudless for several weeks or even months in succession. As these islands lie between 10° and 20° N. lat., they have two rainy seasons—one when the sun passes over their zenith in advancing towards the Tropic of Cancer, and the other when the sun returns from the Tropic of Cancer towards the equator. The first may be called the short rainy season, as it extends

over six or seven weeks (from the commencement of April to the middle of May), during which time showers of rain occur nearly every day, and sometimes several showers in one day, but they do not continue long. This short rainy season is separated from the great rains by a dry and hot season, which continues through the month of June. The great rains commence in the beginning of July; they are ushered in by violent gusts of wind, and accompanied by terrific thunder-storms, and vivid and continual flashes of lightning. The rains descend in torrents, but they rarely last for twenty-four hours in succession; several showers generally come down in one day, and sometimes as many as twenty. In August the rains begin to diminish; but they do not become gentle before the month of October, when they approach to their termination. The mean annual quantity of rain appears to be between 60 and 70 inches.

These islands lie within the range of the trade-winds, which blow regularly from the east and north-east from December to March, and during this time diffuse over these islands a refreshing coolness. In March the winds begin to decline to the south-east, and decrease in strength; they continue to blow with this diminished force to the month of June, when they are frequently interrupted by calms. During the great rains the wind blows from all the points of the compass, and frequently in very violent gusts. In August, the hurricane season begins, and it lasts to the end of October. These terrible winds, which frequently devastate some one or other of these islands, and cause great loss of property and life, usually begin with blowing from the north, north-west, or north-east, and rarely from the south; but it is remarkable that afterwards they rapidly change the point from which they blow, and that the gusts do not proceed in a direction parallel to the surface of the earth, but rush through the air at different angles, and even in a direction perpendicular to the earth's surface. The most southern of the Lesser Antilles, the islands of Trinidad and Tobago, are not subject to hurricanes.

As the longest days in these islands hardly exceed thirteen hours, the difference between the maximum and minimum of heat is far less than in any part of Europe. The mean annual temperature in places little elevated above the level of the sea varies in different islands between 78° and 80° of Fahr. The annual range of the thermometer in such situations is between 60° and 90°, but during the twenty-four hours the difference rarely amounts to 10° or 12°. There is hardly any change, as far as regards the temperature of the air, between the end of November and the beginning of April. During these months the mean temperature probably does not exceed 70°. From the beginning of April to the end of June the heat is continually increasing. From the end of June to the middle of October the temperature is again stationary, and the mean temperature during this time may perhaps amount to

82°; but this great degree of heat is moderated by the rains, and still more by the regular daily alternation of the sea and land breezes. The sea-breezes set in about nine o'clock in the morning, and continue to about an hour before sun-set; a short time after sun-set the land-breezes begin to blow and continue to about an hour after sun-rise; in the interval between both breezes there is no motion in the air, and this is the hottest part of the day, especially in the morning, from half-past seven to nine o'clock. During the calms in the month of June the weather is insupportably hot.

The climate of these islands is healthy from November to June; but during the great rains different kinds of diseases, especially fevers, prevail. Earthquakes are not rare, though they are not so destructive in their effects as in South America. During the dry season, the atmosphere is very pure, and the stars shine with a universal brightness: the planet Venus causes an object to throw a shadow.

3. The principal articles which these islands supply to the market of the world are sugar, coffee, cotton, and pimento; articles of smaller importance are, indigo, ginger, arnotto, aloes, sassafras, and castor-oil: the most common fruits are the pine-apple, the cocoa-nut, the cabbage-tree, the cashew, the mango, the sappadilla, the sweetsop and the soursop, the guava, the shaddock, the papaw, the forbidden fruit, the orange, the pomegranate, the granadilla, the star-apple, the sweet lemon, and the bread-fruit. The plantations of plantains and bananas are extensive; as well as the plantations of cocoa in the island of Trinidad.

The grains of England are not cultivated. Indian corn is universally grown, and yields abundant crops. Rice is only raised in the island of Trinidad to any extent. Many nutritious roots are raised under the name of ground provisions, such as the yam, the cassava, the sweet potatoe, and some others.

The cattle are generally of diminutive size. Only a few islands contain sheep and goats: few horses, asses, and mules are reared, and accordingly a great number of these animals are imported from the continent. Hogs are more abundant than other domestic animals. There are few wild animals except wild hogs, tajassoes, monkeys, and some other smaller animals. The manati is found in Trinidad and Tobago. The cayman is common, as well as various kinds of lizards and snakes; fish and turtle are abundant; parrots, flamingoes, and humming-birds are also common; mosquitoes, cockroaches, centipedes, scorpions, ants, and the chigo, abound in these islands.

It is generally said that there are no metals in these islands, though it is stated that gold, silver, copper, lead, arsenic, and plumbago have been found in the Virgin Islands, but nothing has been got within the last 80 years, and it is stated that the mines are not worth working. Salt is made in some of the islands.

4. The population of these islands consists almost entirely of whites and negroes. The island of Trinidad still contains a few hundred natives. The Caribs, who were in possession of most of these islands

when they were discovered by the Spaniards, are entirely extirpated, with the exception of a few families which still inhabit a sequestered spot in each of the islands of St. Vincent and Dominica. The negroes in the English islands have been emancipated, but in those islands which belong to other nations the great mass of the negroes are still slaves.

TRINIDAD.

5. The island of *Trinidad*, the largest and most southern of the Lesser Antilles, belongs to the British. It is separated from the continent of South America by the Gulf of Paria, which is 100 miles long from east to west, with an average width of nearly 50 miles. The gulf opens into the sea by two straits; the southern called Boca de Serpente (Serpent's Mouth), is about 10 miles wide; the northern, Boca de Dragon (Dragon's Mouth), is about 15 miles wide: the latter strait is divided into four straits by three intervening islands, of which the most western, between the island of Chacachacares and the Punta de la Peña, is by far the widest, and is that which is commonly used by vessels. This gulf properly forms an immense port, having good anchorage in all its extent on a bottom of gravel and mud, and varying in depth from 3 to 30 fathoms. In its most western recess some shoals and banks of sand occur.

Trinidad has the form of an irregular square, extending about 50 miles from north to south, and thirty miles from east to west, except at its southern and northern extremities, where two extensive promontories run out to the west, and include between them the eastern part of the Gulf of Paria. Its northern, eastern, and southern shores, are in general rocky and high; the shores along the Gulf of Paria are low and either sandy or swampy. Along the northern coast, and close to the sea, a chain of mountains runs from Point Galera to the eastern channel of the Dragon's Mouth: the highest points are from 1800 to 2400 feet above the sea, but the mountains become lower towards the west; they occupy a width of nearly 10 miles. South of this range a plain extends across the island from east to west, with a broken surface on the east along Patura Bay; but the greatest part of it is level, and contains some savannas or natural meadows in the eastern districts: towards the Gulf of Paria it terminates in extensive swamps. This plain is drained by two rivers, the larger of which, the Caroni, falls into the Gulf of Paria; the Oropuche falls into Patura Bay. These rivers are navigable for small craft to a considerable distance from their mouths, and it is intended to unite them in the interior by a canal. South of this plain a range of hills runs across the island from east-north-east, to west-south-west, rising to the height of 600 to 1000 feet. South of this range extends another plain, with a surface generally very broken, which, however, in some parts contains extensive levels and savannas. This plain is still in its natural state, being mostly covered with trees, and few settlements have been formed here. Along the southern shores of the island, from Point Galeota to Point Ycacos, another chain of hills runs close to the

coast, which probably nowhere exceeds 1000 feet in height. Along their northern base, and towards the most south-eastern angle of the Gulf of Paria, are some extensive swamps and lagoons which extend nearly to Cape Brea. Separated from these lagoons and from the coast by a low, sandy tract, is the Pitch Lake, somewhat more than a mile in length and width, and about 80 feet above the level of the sea. The Pitch Lake is in fact not a lake, but a plain covered with bitumen, traversed by a great number of small streams of water. The surface of the bitumen is subject to continual changes, and frequently in the morning there is a deep conical cavity, where the evening before there was a small spot like an island covered with vegetation, and near it another insular spot has risen which did not exist before. South of Cape Brea is a place in the sea which is in a state of ebullition and throws up a considerable quantity of bitumen. There are other places in these hills, and along these shores, where bitumen is found or thrown up. The bituminous matter, when mixed with tallow and linseed oil, makes a kind of tar fit for caulking ships; near Cape Ycacos there are some mud volcanoes.

There are several good harbours on the shores of the Gulf of Paria, especially in the neighbourhood of the Dragon's Mouth; the best is the harbour of Chaguaramas, which is capable of receiving the largest ships of war, having from 4 to 40 fathoms' depth of water, and a bottom of gravel and mud: its shores are bold and steep. Not far from it, and to the east, is the harbour of Carenage, which is adapted to small vessels. Then follows the harbour of Puerto de España, or Spanish Town, which is safe and extensive: on its shore stands the town called Port of Spain, which is well-built, has fine quays, a magnificent church, and a considerable commerce; the population is about 11,800. Naparima has also a good harbour, and 2050 inhabitants. The northern and eastern coasts have several small harbours, but they are open to the prevailing northern and north-eastern winds. Along the northern coast are the harbours of Macaripe and Las Cuevas where Fort Abercrombie is built, and near Point Galera is Toco Bay. On the eastern coast are Cumana Bay and Manzanillo Bay, both indifferent ports. Near Point Galeota, the most south-eastern cape of the island, is the harbour of Guaya-guayara Bay, which is deep and safe, being protected against the prevailing easterly winds by Point Galeota.

The area of the island is 2020½ square miles, of which only about one-third part, or 642½ square miles, are surveyed and appropriated.

The population of the island at the last census, which was taken in 1834, consisted of—

	Males.	Females.	Total.
Whites	2,018 .	1,614 .	3,632
Free Blacks and Coloured .	8,699 .	10,025 .	18,724
Apprentices, since freed .	8,430 .	8,259 .	16,689
Aliens and resident strangers . . . . .	. . . . .	. . . . .	4,633
		Total	43,678

In 1831 the aborigines had decreased to 762; in 1812 they were 1804; in 1783 they amounted to 2032.

The parish registers are not kept with accuracy. In particular, the number of deaths are not correctly recorded, in consequence of many taking place at a considerable distance from the residence of any clergyman, and the burials being necessarily performed without any religious rites. The births, registered in 1834, were 701, or 1 in 62 of the population; the marriages were 178, or 1 in 245; and the deaths 644, or 1 in 68.

The climate cannot be considered healthy. It appears from the statements made by the Registrar of Slaves, that,

Between 1816 and 1819 the deaths exceeded the births by 1,361

,,	1819	,,	1822	,,	,,	1,101
,,	1822	,,	1825	,,	,,	119
,,	1825	,,	1828	,,	,,	377

The number of slaves in 1816 having been 25,644, it follows that the decrease in 12 years was more than $11\frac{1}{2}$ per cent, or about 1 per cent per annum. The number of slaves on the 1st of August, 1834, in respect of whom compensation was paid, was 20,657, being 3122, or $13\frac{1}{2}$ per cent fewer than were on the register in 1828; but this number includes manumissions, of which no account is given, as well as deaths. The sum awarded to the owners of the 20,657 slaves was 1,033,992*l.*, or a fraction beyond 50*l.* per head. Among the number were—

Predial, attached	12,244
,, unattached	1,529
Non-Predial, including 3262 domestic servants	3,766
Children under 6 years old	2,246
Aged and diseased	872

Total . . 20,657

The exportable products of Trinidad consist of sugar, molasses, rum, cocoa, and coffee, with a small quantity of cotton and ginger. Nearly the whole is shipped to England and Ireland. The quantities so shipped in 1838 amounted to—

Sugar	286,247 cwt.
Rum	3,530 gallons
Molasses	78,387 cwt.
Coffee	425,341 lbs.
Cocoa	1,678,913 lbs.
Cotton	206,977 lbs.

Some part of the rum and molasses made are shipped to America in payment for lumber.

The total value of imports into the colony in 1836, the latest year for

which accounts have been received, was 469,208*l.*: they consisted principally of manufactured goods from England, butter and salt provisions from Ireland, fish from the British North American Colonies, and lumber from those colonies and the United States of America.

Trinidad is one of the Crown Colonies, belonging to England—*i. e.* is governed by the Secretary of State for the Colonies, without the interference of a local legislature. The public affairs are administered by a Lieutenant-Governor, assisted by an executive council, and legislative committee, consisting of twelve members, six of whom are members *ex officio*, and hold offices at the pleasure of the crown; the remaining six are chosen also by the Crown from among the principal inhabitants, and are removable. The Governor presides, and is always certain of a majority for carrying the measures which he may propose. For local government there is a body called the *Cabildo*, under the authority of which taxes are levied for local purposes.

This island was discovered by Columbus, in July, 1498; it was then fully peopled by Caribs. The earliest settlement was made by the Spaniards in 1588, when they so oppressed the natives, that the numbers of the latter were rapidly diminished. In 1676 Trinidad was taken by the French, but was soon after restored to Spain. It was long much neglected by its European possessors, and, in 1783, contained only 2763 inhabitants, of whom 2032 were native Caribs. Its sole produce then was cocoa and indigo. This island was then a dependency of the government of Caraccas. In 1797 Trinidad was taken by the British, and has since continued a colony of Great Britain.

TOBAGO.

6. *Tobago*, a British island, lies north-east of Trinidad, from which it is divided by a strait somewhat more than 20 miles wide: it is about 24 miles long from north-east to south-west, and 5 miles wide on an average. This island is one mass of rocks, rising with a steep ascent on the north-east, and descending gradually towards the south-west, with some intervening small and delightful valleys. The highest part of the rock is towards the north-eastern extremity, where it probably attains an elevation of 900 feet. The whole face of this island consists of an alternation of ascents and descents, with a few plains of no great extent at its south-western extremity; but it is well cultivated where the rocks are not too steep. It has several good harbours along the northern coast for vessels of 150 tons, and a few also on the southern coast. The capital is Scarborough, a small place on the south coast.

The population of this island at the last return, in 1835, was stated to be—

	Males.	Females.	Total.
Whites	250	30	280
Free coloured and blacks			3,000
Apprenticed labourers	4,515	5,290	9,805
Total			13,085

The number of registered slaves, on 1st August, 1834, for whom compensation was paid to the owners, was 11,589, and the amount paid for them out of the parliamentary grant was 233,875*l.*, or 20*l.* 3*s.* 7*d.* per head. The difference in their numbers in so short a time as one year, may be accounted for by the small value of labour in this island, compared with neighbouring colonies, to which many of the apprentices were consequently conveyed. Of the number in 1834, there were—

Predial, attached	.	.	.	.	8,108
„ unattached	.	.	.	.	158
Non-predial	.	.	.	.	812
Children under 6 years	.	.	.	.	1,479
Aged and diseased	.	.	.	.	1,032

11,589

The climate is very unhealthy, the inhabitants being very subject to the yellow fever. During 20 years, from 1817 to 1836, the average mortality of the white troops in the island was at the rate of 153 for each 1000, or 15 per cent. annually. In 1820 there occurred 109 deaths out of 146 men stationed there. In 1823, which was unusually healthy in the West India Colonies, the rate of mortality in Tobago was little more than one-half as great as the average for the whole of the islands; whereas, in the 20 years including 1823, it was very nearly double that average.

Tobago is divided into seven parishes. Its exportable produce consists altogether of sugar, molasses, and rum. The quantities exported in 1836 were—

Sugar	.	.	.	12,279,680 lbs.
Molasses	.	.	.	128,970 gallons.
Rum	.	.	.	435,994 „

The total value of which was 196,974*l.* The imports, which were valued in that year at 73,947*l.*, consisted of British manufactures, salt provisions, and plantation stores from Great Britain, and lumber from America.

Tobago has a local legislature, consisting of the Lieutenant-Governor, a Legislative Council of 9, and a House of Assembly of 16 members. The island was discovered by Columbus on his third voyage. It was then peopled by Caribs. The first European settlement was made by the English in 1625, but they subsequently departed, and in 1632 a colony of Dutchmen planted themselves there, but were driven away by the Spaniards of Trinidad. It was again occupied by Dutchmen in 1654, but they were again driven away in 1677 by the French, then at war with Holland. By the Treaty of Aix-la-Chapelle, in 1748, it was declared neutral. In 1763 it was ceded to England. The island was taken by France during the American war, and remained in the possea-

sion of that country until 1793, when it was retaken by England, and has since continued in British possession.

GRENADA.

Grenada, a British island, is about 17 miles long from north to south, and its greatest breadth is nearly 9 miles. The centre of the island is occupied by a large mountain mass, which rises to an elevation of more than 3000 feet; the highest point, Mount St. Catherine, attains an elevation of 3200 feet. From this mass several offsets extend in all directions towards the shores, so that the surface of the island consists of high hills and narrow valleys. The mountains are volcanic, and the valleys contain some alluvial tracts of great fertility near the shore. On the south-east coast there is a considerable extent of low swampy ground. In the centre of the island, about 1700 feet above the sea, and inclosed by lofty mountains, is a circular lake about $2\frac{1}{2}$ miles in circumference, and 14 feet deep. Point George, the capital of the island, is built upon uneven ground on the south-west coast, and some of the streets are very steep. At the back of the town the mountains rise to a great height. The harbour is spacious and well sheltered on all sides except the west.

The population, in 1836, of the island, including that of its dependency, Carriacou, consisted of—

	Males.	Females.	Total.
Whites and free coloured and blacks	2,029	2,197	4,226
Apprenticed labourers	8,826	9,490	18,316
Total			22,542

The number of slaves on 1st August, 1834, in respect of whom compensation was given, was 23,638. The amount awarded out of the parliamentary grant was 616,255*l.*, or 26*l.* 1*s.* 4*d.* per head. The slaves were classed as follows:—

Predial, attached	16,560
„ unattached	380
Non-predial, including 1325 domestic servants	2,069
Children under 6 years	3,320
Aged and diseased	1,309
Total	22,638

The island is divided into six parishes. Although the mean temperature is higher than in the other West India islands, and the fall of rain is very considerable, amounting to 65 inches annually, the climate is more healthy than in the generality of those colonies; the average mortality of white troops in the 20 years, from 1817 to 1836, which, for the whole of the West India colonies, was at the rate of $78\frac{1}{2}$ per 1000 annually was not more than $61\frac{1}{2}$ in Grenada,

The exportable productions of the island are sugar, molasses, rum, and cocoa of excellent quality. The quantities of these products exported in 1836, were—

Sugar	.	.	.	18,373,961 lbs.
Molasses	.	.	.	181,030 gallons
Rum	.	.	.	436,316 „
Cocoa	.	.	.	381,360 lbs.

The value of exports in that year was 201,080*l*. The imports in the same year, which consisted of the usual articles required in the West India colonies, amounted in value to 147,315*l*.

Grenada, which is under a lieutenant-governor, has a local legislature, of which the Council consists of 9, and the House of Assembly of 27 members.

The island was discovered in 1498 by Columbus, when it contained a numerous population of warlike Caribs, whose peaceful possession of the country was not disputed until 1650, when a party of 200 French adventurers, under Duparquet, Governor of Martinique, landed, and having distributed some knives and hatchets, and a large quantity of glass beads, among the natives, took possession of the island, and built a fort for the protection of the settlers. In a short time the French commenced a war of extermination against the natives, which they carried on with the most reckless cruelty and with complete success.

Grenada and its dependencies remained in the possession of France until 1762, when it was taken by the English, and in the following year was ceded to Great Britain by the Treaty of Paris. In 1779 the island was taken by the French, but was restored at the general peace in 1783: it has since remained in possession of England.

Between the island of Grenada and St. Vincent are several small islands comprehended under the name of *Grenadines* or *Grenadillos*. Cariacou, the largest, is about 7 miles long, and on an average about 2 wide. These islands are not volcanic, but consist of low rocks, and have no water. The larger islands have a slightly hilly surface. Cotton and sugar are raised on these islands. They belong to the British.

ST. VINCENT.

St. Vincent, a British island, in extent is about equal to Grenada, being 17 miles long from north to south, and in the widest part 10 miles broad. A ridge of high volcanic hills runs through the whole length of the island from north to south, forming on the east and west sides subordinate masses which extend to the very shores of the sea, and are intersected by valleys of great fertility and beauty. In the north-western part of the island the mountains attain the greatest

elevation. A volcano, which in the year 1812 made a terrible eruption, constitutes the highest point, being, according to computation, about 3000 feet above the sea. Kingston, the capital of the island, is situated on the south-west coast, on a deep bay, well sheltered by a range of high mountains in the back ground, which stretch into the sea on each side, thus forming a spacious amphitheatre.

There has been no recent census of the population of this island. The returns of 1831 are as follow :—

White	1,301
Free coloured, and black	2,824
Slaves	22,997
Total	27,122

The climate is exceedingly humid. In 1822 rain fell on 261 days, and in 1832 the number of rainy days was 298; the average quantity that falls throughout the year is nearly 80 inches; yet the island is comparatively healthy, as is shown by the mortality of the white troops, which, upon the average of 20 years, was only 55 out of every 1000; the average of the whole of the British West Indies having been 78½. Neither is the mortality so great among the negro race as we have seen it to be in Trinidad. The decrease of slaves by deaths, beyond the number replaced by births, in St. Vincent, during the 14 years from 1817 to 1831, was 2579, or not quite ¼ per cent. per annum. The number of registered slaves, on the 1st of August, 1834, in respect of whom compensation was allowed, was 22,266, and the amount paid out of the parliamentary grant was 590,779*l.*, or 26*l.* 10*s.* 7*d.* per head. They were classed as follows :—

Predial, attached	14,797
„ unattached	512
Non-predial, including 2208 domestic servants	2,805
Children under 6 years of age	2,963
Aged and diseased	1,189
Total	22,266

The island is divided into five parishes. Its products are almost wholly sugar, rum, and molasses. The quantity of each of them exported in 1836 was :—

Sugar	21,694,512 lbs.
Rum	242,637 gallons
Molasses	394,830 „

And the total value of the exports in that year was 349,480*l.* The imports are similar in kind, and from the same quarters, as the imports

of Trinidad and the remaining British West India colonies. The value imported into St. Vincent in 1836 was 155,522*l*.

This island has a local legislature, consisting of the Lieutenant-Governor, a Council of 12 members appointed by the crown, and an Assembly of 19 members, elected by freeholders of 10 acres of land, or of a house of the yearly value of 20*l*. in the town, or of 10*l*. in the country.

The island was discovered by Columbus in 1498, on the 22nd of January, which is St. Vincent's day in the Spanish calendar. It then contained a numerous and warlike population of Caribs. The first settlement made by Europeans was in 1719, when a few adventurers from Martinique established themselves. By the treaty of Aix-la-Chapelle, in 1748, St. Vincent was declared neutral; but in 1762 was taken by the English and ceded to them by the peace of Paris in the following year. In 1779 it was taken by the French, but was restored at the general peace in 1783. In 1795 a war broke out between the English and Carib inhabitants, which lasted two years, at the end of which the natives were subdued, and such of them as remained were removed to the island of Roatan in the Bay of Honduras. The English have since remained in undisputed possession.

Considerable damage was done on the 27th of April, 1812, (30 days after the destruction of the city of Caraccas by the great earthquake,) by an eruption of the Souffrière mountain which continued during three days.

ST. LUCIE.

St. Lucie, a British island, is about 35 miles long, with an average breadth of 12 miles. The interior of the island is occupied by a table mountain of uneven surface, which extends through half the length of the island, and is surrounded by high hills which grow lower towards the coast; on the eastern side of the island the hills approach close to the sea, but on the west side they are divided from it by a low and swampy tract. This low coast is called *Basse-terre*; and the rocky district on the east is denominated *Cabes-terre*. A range of hills, connected with the southern part of the table mountain, terminates at the south-western extremity of the island in two conical rocks called the *Pitons* of St. Lucie. This subordinate range contains an active volcano, the last eruption of which took place in 1812: its summit is more than 4000 feet above the sea level, and within its crater are several deep depressions filled with boiling water and mud. From one of these depressions there rises from time to time a column of smoke as thick as a man's arm, to the height of several feet. The capital of the island is *Carenage*, a small place, on the west coast, built at the bottom of a deep irregularly-formed harbour, which is surrounded by hills, and safe and deep enough for a man-of-war.

The population of the island in 1836 was as follows :—

	Males.	Females.	Total.
Whites . . .	503	487	990
Black and Coloured	6,645	7,695	14,340
Total . . .			15,330

The number of slaves on the register, on 1st August, 1834, and for whom compensation was paid out of the parliamentary grant of 20,000,000*l.* was 13,291 ; the sum paid to their owners was 334,495*l.* or 25*l.* 3*s.* 4*d.* per head. They were classed as follows :

Predial, attached	8,355
„ unattached	368
Non-Predial, including 1451 domestic servants	1,605
Children under 6 years	1,957
Aged and diseased persons	1,006
	<hr/>
	13,291

The climate is exceedingly moist and variable, and far more unhealthy than the generality of the West India Islands. The annual average mortality of the white troops in 20 years was, 123 in each 1000. On several occasions the seasons have been so sickly, that from one-fourth to one-third of the troops have died in the year.

The island is divided into three districts. It produces sugar, rum, molasses, coffee, and cocoa. The quantities produced in 1836, were :—

Sugar	4,318,010 lbs.
Rum	68,187 gallons.
Molasses	108,455 „
Coffee	163,486 lbs.
Cocoa	44,040 „

The exports of that year were valued at 69,040*l.*, and the imports at 60,344*l.*

St. Lucie is a Crown colony of England. The government is administered by a Lieutenant-Governor and Council. The white inhabitants are for the most part French or of French extraction, and the French language is generally spoken. The laws of that country are administered in agreement with the terms of capitulation when last the island came into the possession of England, but an approximation towards English legal practice is going forward ; wherever the French law is opposed to that practice it is put aside without scruple.

The first settlement by Europeans was made on this island by the English in 1635. By the Treaty of Aix-la-Chapelle it was declared neutral, but, by the Treaty of Paris, in 1763, was ceded to France. It was taken by the English in 1779, and restored to France at the general peace in 1783. The island was taken again by the English in 1794,

and restored by the Treaty of Amiens in 1801. In 1803 it was again taken by the English, and has since continued in their possession.

BARBADOES.

Barbadoes, the most important of the Lesser Antilles, belongs to England: it is situated to the windward of the chain of the Antilles, being nearly 100 miles east from St. Vincent. It lies north-west and south-east, and is of an irregularly oval form, about 20 miles long and about 15 miles broad in the widest part. A coral reef runs along the northern and eastern sides of the island, and this part of the coast cannot be approached by vessels. There are no traces of volcanic action in Barbadoes; and the surface is rather low when compared with that of the other islands. Barbadoes is subject to tremendous hurricanes, which come at intervals of several years: that which occurred in 1780 destroyed both life and property to a large amount. In the southern districts no elevation occurs above 300 or 400 feet; the land rises in terraces or platforms one above another, which are separated from each other by short but abrupt ascents, in numerous places altogether inaccessible. Towards the north, the country rises much higher and more rapidly; but the highest peak, Mount Hilloughby, does not exceed 1000 feet in elevation. The plains are here and there furrowed by deep ravines, but are universally in a high state of cultivation, and form an agreeable contrast with the black rocky precipices, and the dark thick foliage of the trees, with which the ravines are overgrown. The north-eastern districts, called Scotland, have a very broken surface, but are not less fertile or in a lower state of cultivation than the other parts. In several places in this district petroleum occurs;—it seems to be diffused between the soil and the rock which lies under it, and issues above ground from several bituminous springs: it goes by the name of green tar, and often supplies the want of pitch and lamp-oil. There is also a burning spring, which appears to be of the same nature as that of Pietramola in the Appenines. Bridgetown, the capital of the island, is built on the south-west coast, on Carlisle Bay, an open roadstead, in which the holding-ground is not very good. The town is of considerable extent, being 2 miles long and $\frac{1}{2}$ a mile wide; but it is ill built, with crooked and unpaved streets, and contains many wooden houses. The largest square of the town is adorned with a good statue of Lord Nelson. The population is about 20,000. Further north, and on the west coast, is Speightstown, a place of considerable importance, with a population of about 5000.

The population of this island, at the census of 1829, the latest which appears to have been taken, so far as free persons were concerned, was as follows:—

	Males.	Females.	Total.
White	7,049	7,910	14,959
Free, coloured . . .	1,576	1,543	3,119
Free, black	1,033	994	2,027
Slaves	37,691	44,211	81,902
Total			102,007

Unlike the slave population of the colonies already described, that of Barbadoes experienced a sensible increase up to the passing of the Abolition Acts, and notwithstanding numerous cases of manumission. These cases amounted, between 1829 and 1832, to 1089. The number of slaves in the register, on the 1st August 1834 was 83,150, and the amount of compensation paid to their owners was 1,719,980*l.* or 20*l.* 13*s.* 8*d.* per head. They were classed as follows :—

Predial, attached	47,876
„ unattached	4,317
Non-predial, including 12,511 domestic servants	14,445
Children under 6 years	14,732
Aged and disabled	1,780
Total	83,150

The climate of Barbadoes is more healthy than that of the generality of the West India Islands ; it is less humid ; and the soil being light and calcareous, the rain which falls is soon absorbed. The average annual rate of mortality among the white troops, in the 20 years from 1817 to 1836, was 58½ in every 1000. This island and St. Vincent are more free from fevers than any of the other West India stations at which white troops have been placed.

Barbadoes produces sugar, molasses, rum, coffee, a small quantity of cotton, and ginger of excellent quality. The quantity of each of these products exported in 1836 was as follows :—

Sugar	41,188,780 lbs.
Molasses	447,408 gallons
Rum	1,640 „
Coffee	22,680 lbs.
Cotton	183,300 „
Ginger	425,904 „

The total value of exports in that year was 636,853*l.*, and of imports 615,503*l.*

The government of Barbadoes is vested in a Governor, a Legislative Council, consisting of 12 members, appointed by the crown, and a House of Assembly elected by the freeholders.

The area of the island is 162 square miles : it is divided into eleven parishes.

It is not known when Barbadoes was first discovered. It was not noticed in the charts of European navigators earlier than the year 1600. Some Englishmen landed there in 1605, and took formal possession of the island, but did not remain. The earliest settlement was made twenty years after by some English adventurers, under the sanction of a patent granted by James I. to the Earl of Marlborough. In 1627 the Earl of Carlisle purchased his rights from the Earl of Marlborough, and obtained a charter from Charles I., granting to him the property of the island. The proprietary government, established under the charter, ceased by consent of all parties in 1662, and the sovereignty was declared to belong to the crown. Barbadoes has never been captured by any hostile force.

The islands of Trinidad, Tobago, Grenada, with the Grenadillos, St. Vincent, St. Lucie, and Barbadoes, are under a British governor, who resides in Bridgetown.

MARTINIQUE.

7. The islands between $14^{\circ} 30'$ and between $16^{\circ} 30'$ are the most elevated in the whole chain, and also the largest, the island of Trinidad excepted.

The most southern of these islands is *Martinique*, which belongs to the French; its area is above 380 square miles. Extensive masses of volcanic rocks cover the interior, and rise to a great elevation. Mount Pelée is 4400 feet high, and the summits, called *Les Pitons-de-Carbet*, are, according to some authorities, still higher. There are six extinct volcanoes, and one of the craters is of large dimensions. These rocky masses extend in most parts to the very shores of the sea, where they form more numerous and deeper indentations than occur in the other Antilles, and render the outline of the island very irregular. Between these projecting masses of volcanic rocks there are irregular wide valleys of great fertility, and sometimes of considerable breadth. Though hardly two-fifths of the surface are under cultivation, the remainder being covered with trees, or consisting of bare rock, yet the island produces a great quantity of sugar, coffee, cocoa, and cotton, especially in the valleys on the west side, which are more extensive and level than those in the other parts of the island. This side is called *Basse-terre*, and the eastern side is called *Cabes-terre*. The largest among the numerous harbours is that called *Cul de Sac Royal*, on the shores of which stands Fort Royal, the residence of the French governor. The capital is St. Pierre, the largest and best built town in the Lesser Antilles; the houses being 4 and 5 stories high, and in a superior style of European architecture, the streets regular, and the shops numerous and well stored. Small streams run down the centre of the paved streets, which are lighted at night by lamps. It has some fine churches, a botanic garden, and is well fortified. Fort

Trinité, on the eastern coast, is built in the innermost recess of Bay Trinité, and has a considerable commerce.

The population of this island, at the end of 1835, distinguishing free persons from slaves, was as follows:—

<i>Free Persons.</i>	<i>Males.</i>	<i>Females.</i>	<i>Total</i>
Below 14 years of age .	6,188	6,228	12,416
Between 14 and 60 years .	10,331	12,900	23,231
Above 60 years . . .	900	1,408	2,308
	17,419	20,536	37,955
<i>Slaves.</i>			
Below 14 years .	11,307	11,925	23,232
Between 14 and 60 years .	23,435	25,398	48,833
Above 60 years . . .	2,842	3,160	6,011
	37,584	40,492	78,076
Total . . .	55,003	61,028	116,031

In the above account, the whites are not distinguished from the free black and coloured persons, but it is stated that they amounted to about 9000, and that of the other 29,000 free persons, 17,579 had been manumitted in the five preceding years.

The proportions of births, deaths, and marriages, among the different classes of the population, are:—

	<i>Births.</i>	<i>Deaths.</i>	<i>Marriages.</i>
	1 in	1 in	1 in
Whites	29	37	137
Free black and coloured }			221
Slaves	32	35	5,577

The climate is exceedingly humid. From observations, continued through six consecutive years, it appears that the greatest number of rainy days in the year was 238, and the least number was 223. The quantity of rain which falls during the year averages 84 inches; the difference between a dry and a wet year does not amount to more than 13 inches. The greater part of the rain falls between the middle of July and the middle of October; during the remaining nine months there are frequent showers, but no settled rainy weather.

The island contains a surface of 98,782 hectares, equal to 244,348 English acres; one-third is level plain, and two-thirds are mountainous. There are 75 streams, which take their rise in the mountains; they are for the most part mere rivulets, and except during the rainy season are not more than 2 to 3 feet deep. Six of those streams are navigable for boats for a short distance from their mouths, and are used for the conveyance of produce to the shipping. The remaining

streams are useful in giving motion to machinery for grinding sugar canes.

The principal productions of Martinique are sugar, molasses, coffee, cocoa; a small quantity of cotton is grown by the slave population. The quantities of these things produced in 1835 were as follow :—

Sugar	.	.	.	67,110,186 lbs.
Molasses	.	.	.	1,558,600 gallons.
Rum	.	.	.	330,154 "
Coffee	.	.	.	1,728,980 lbs.
Cocoa	.	.	.	341,660 "
Cotton	.	.	.	32,714 "

Only 38,320 hectares, or about two-fifths of the whole area of island are under cultivation; and about one-third of this cultivation is applied to the raising of provisions. The produce above mentioned was yielded by 21,179 hectares planted with the Sugar-cane.

3,082	"	"	Coffee-trees.
492	"	"	Cocoa "
178	"	"	Cotton "

The trade of the colony in 1835 was to the following amount, expressed in English money :—

	<i>Importations.</i>	£.	£.
French produce and manufactures from France		666,356	
" " French Colonies		51,267	
Foreign produce and manufactures		99,002	
		<hr/>	816,625
	<i>Exports.</i>		
Colonial produce and manufactures	{ To France . . .	649,777	
	{ „ French colonies . . .	1,802	
	{ „ Foreign countries . . .	22,295	
Foreign goods re-exported		55,519	
		<hr/>	729,393

Martinique is politically divided into two arrondissements, each of which is divided into four cantons: two of these cantons are subdivided each into seven communes, and the other two cantons each into six communes, making altogether twenty-six communes. Justice is administered by one Royal Court, two Assize Courts, and two inferior tribunals. There are two large towns, Fort Royal, with 10,000, and Saint Pierre with 20,000 inhabitants, and four small towns, viz.—

Trinité	with	5700 inhabitants
Marin	.	3000 "
Lamentin	.	8900 "
Rivière Salée	.	2300 "

There are besides 20 villages.

Fort Royal is the seat of government, and Saint Pierre is the commercial capital.

The administration of the colony is confided to a Governor, assisted by a Privy Council consisting of seven members. The Colonial Council is composed of thirty members, elected for five years, by persons paying each 12*l.* per annum direct taxes, or having property in the colony worth 1200*l.*; its functions are municipal; it authorises the levying of taxes for purposes of internal regulation; and advises the Governor and his Privy Council in all matters which it considers necessary for the good of the colony. The Colonial Council further elects two agents, who represent the colony at the seat of government in Paris, and who form part of a committee composed of agents of all the French colonies, and whose duty it is to watch over the general interests of the colonies.

Martinique was discovered in 1493, when it was peopled by Caribs. It was not until 1635 that any attempt was made, on the part of Europeans, to make any settlement upon it. In that year 100 men were sent there by the French governor of St. Christopher, and they placed themselves near the spot where the town of St. Pierre now stands. For a short time no quarrel ensued with the natives, but differences afterwards arose, which ended in a regular war, the result of which was the extinction, in 1664, of the aboriginal race. In that year the island was granted by the French government to the West India Company, together with the exclusive right of trading in the American seas for 40 years; but in 1674 this Company was dissolved.

In 1762 Martinique was taken by the English, but was restored in the following year under the Treaty of Versailles. In 1794 the island was again taken by the English, and was restored in 1802 under the Treaty of Amiens. In 1809 it again fell into their hands, but was given up under the Treaty of Paris in 1814, and has since continued subject to France.

DOMINICA.

Dominica, an English island, is about 30 miles long, and in the widest part 15 miles wide. High mountains occupy the central parts, running from north-north-west to south-south-east through its whole length. The slopes of the mountains are steep, and on both sides terminate in bold, precipitous coasts which are greatly indented. The central ridge is considered to contain the loftiest mountains in the Antilles; but their absolute elevation has not been ascertained. In the southern districts, where the mountains appear to be highest, there are several volcanic craters. These mountains are for the most part covered with extensive forests. The cultivable parts of this island, though numerous, are not extensive. The capital is Roseau, a small place on the south-west coast, which has a good, though not capacious, harbour.

The population of this island in 1833 consisted of—

	Males.	Females.	Total.
Whites	382	338	720
Free coloured and black	1,673	2,141	3,814
Slaves	6,802	7,324	14,126
Total			18,660

The number of slaves, on 1st August, 1834, in respect of whom compensation was given, was 14,175, and the sum paid was 275,547*l.* or 19*l.* 8*s.* 9*d.* per head. They were classed as follows:—

Prædial, attached	9,829
„ unattached	636
Non-prædial, including 1077 domestic servants	1,199
Children under 6 years	2,113
Aged and diseased	398
Total	14,175

The climate of Dominica must be considered unfavourable to human life. The annual average proportion of deaths to each 1000 of white troops, in the 20 years from 1817 to 1836, was 137, or 75 per cent. beyond the average of the West Indies generally. Among the slave population, the loss by deaths exceeded the increase by births in the 9 years from 1817 to 1826, by 662, in a population of 17,959.

A great quantity of rain falls in the island. The rainy season continues from the end of August to the beginning of January, but at all times of the year much rain occasionally falls. Within its small extent it contains 30 streams of some magnitude, besides numerous rivulets. The soil is rich, and, with so much moisture, cannot fail to prove very productive. It produces sugar, rum, molasses, coffee of very fine quality, and a small quantity of cocoa and arrow-root. The quantities of these products exported in 1836 were:—

Sugar	4,009,208 lbs.
Rum	18,725 gallons
Molasses	41,850 „
Coffee	312,115 lbs.
Cocoa	240 „
Arrow-root	4,462 „

The value of the exports in that year was 78,282*l.* and of imports 68,077*l.*

Dominica has a Lieutenant-Governor and a local legislature, consisting of 12 members of Council, and 20 members in the House of Assembly. The island was discovered by Columbus in 1493, and was named from its having been first seen on a Sunday. It was considered neutral ground, and remained unclaimed until 1759, when it was taken posses-

sion of by England, and its sovereignty was ceded to the British crown by the Treaty of Paris in 1763. It was taken by the French in 1778, but again restored to England at the general peace in 1783. It was unsuccessfully attacked by the French in 1805, and has since remained in the undisturbed possession of England.

GUADALOUPE AND ITS DEPENDENCIES, VIZ.:

Marie Galante, Saintes, Desirada, — St. Martin (French Part.)

Guadeloupe, a French island, consists of two islands, which are divided from one another by a deep arm of the sea, called the Salt River, which in some places is hardly 40 fathoms wide. The eastern island is called *Grande-terre*, and the western *Basse-terre*, or *Guadeloupe*; both together have an area of 530 square miles, which is somewhat less than the area of the county of Monmouth. *Basse-terre* is entirely covered with mountains and hills of volcanic origin; the highest part is towards the southern extremity, where a volcano, *La Souffrière*, rises to the elevation of about 5500 feet. It has no regular crater, but smoke issues out of three or four different spots. Not far from the shore, south-west of the volcano, is a place in the sea which sends up boiling-hot water. *Grande-terre* does not rise to a great elevation, perhaps not more than 1000 or 1500 feet, and is not volcanic: most of the elevated hills consist entirely of coral rocks: it has no streams or springs, and the soil, being more sandy, is less fertile than *Basse-terre*. *Pointe à Pitre*, on *Grande-terre*, is built near the southern entrance of the Salt River on flat ground: the harbour, called *Le Petit Cul de Sac*, is sheltered and the anchorage is good. The population is 16,000. The town of *Basse-terre*, on *Guadeloupe*, is built in the recess of an unsheltered roadstead, with indifferent anchorage, which is unsafe during the hurricane season. The town occupies a considerable space along the shore, but does not extend far into the interior, owing to the mountains rising abruptly behind it. It is well built, and being situated in the more productive part of the island, it carries on a considerable commerce. The population is 7500.

Marie Galante, a French island, is about 12 miles long, and 7 miles wide. The hills towards the southern extremity are of no great elevation and are covered with trees; the ascent is easy, and on their summits there is generally a verdant plain of some extent. In the northern districts the hills are higher; and still more so towards the eastern coast, where they terminate on the sea in high and precipitous rocks. Along and parallel to the northern shores, which are low, there extends a narrow lagoon, 7 or 8 miles in length, which is divided from the sea by a low, narrow tract of sand. The capital is *Grandbourg*, a small but neat place.

West of this island, a little cluster of mountainous rocks, called the *Saintes*, enclose a very safe harbour. They consist of lofty and steep

peaks, some of which are united by flat ground, and ridges of inferior elevation: others are entirely separated by the sea. The population is about 1100. The products are coffee and cotton. These islands belong to the French.

Deseada, or *Desirada*, a French possession, is a small island east of Guadeloupe. It rises with a steep ascent, and then extends in a table land, which consists of limestone rocks, in which many caverns occur, but it is without water.

The population of these colonies on the 31st of December, 1835, consisted of—

<i>Free Population.</i>		Males.	Females.	Total.
Below 14 years of age . .		4,889	4,847	9,736
Between 14 and 60 years . .		9,158	10,669	19,827
Above 60 years		579	1,110	1,689
		<hr/>	<hr/>	<hr/>
		14,626	16,626	31,252
<i>Slave population.</i>				
Below 14 years of age . .		13,628	13,939	27,567
Between 14 and 60 years . .		30,018	31,482	61,500
Above 60 years		2,522	4,733	7,255
		<hr/>	<hr/>	<hr/>
		46,168	50,154	96,322
		<hr/>	<hr/>	<hr/>
Total		60,794	66,780	127,574
 Of the above there were—				
		Free.	Slaves.	Total.
In Guadeloupe		26,168	81,642	107,810
Marie Galante		3,072	10,116	13,188
Saintes		570	569	1,139
Desirada		498	1,070	1,568
St. Martin (French part) .		944	2,925	3,869
		<hr/>	<hr/>	<hr/>
		31,252	96,322	127,574

The proportion of births and deaths to the population, in 1835, was—

	Slaves.	Free.
1 Birth for	50	28
1 Death for	44	34

From which it would appear that the climate is not even so favourable to human life as that of Martinique. The atmospheric humidity is as great as that of Martinique. The average quantity of rain that falls in the year is stated to be 86 inches. The difference in the quantity, between a dry and wet season, is no more than 13 inches. From observations, continued through five consecutive years, it appears that, in the course of the year, the greatest number of days on which rain falls is 223, and the smallest number 179. The season, in which the

greatest quantity of rain falls is from the middle of July to the middle of October: the remaining nine months are comparatively dry.

The area, stated in English acres, of Guadaloupe and its dependencies is:—

Guadaloupe	. . .	339,160
Marie Galante	. . .	37,900
Saintes	. . .	3,102
Desirada	. . .	10,695
St. Martin (French part)	. . .	13,266

404,123 or 631 square miles,

of which little more than one-fourth is cultivated.

Guadaloupe contains a great number of streams, but they are very inconsiderable, except during the rainy season. There are two small rivers, the Goyave and the Lezarde, which are navigable for boats, and which facilitate the shipment of produce.

The productions of these colonies are sugar, molasses, rum, coffee, cotton, cocoa, and small quantities of cloves and tobacco. The quantities of these articles produced in 1835 were:—

Sugar	. . . .	79,937,530 lbs.
Molasses	. . . .	1,431,384 gallons
Rum	. . . .	474,763 „
Coffee	. . . .	2,209,618 lbs.
Cotton	. . . .	177,020 „
Cocoa	. . . .	61,649 „
Cloves	. . . .	759 „
Tobacco	. . . .	8,310 „

The value of the trade of Guadaloupe and its dependencies in the year 1835 was as follows:—

	£.	£.	£.
Imports.—French products from France	654,481		
„ „ from French colonies	55,553		
		710,034	
„ Foreign products		120,696	
			830,730
Exports.—Colonial produce to France	949,527		
„ „ to French colonies	191		
„ „ to Foreign countries	18,158		
		967,876	
„ French and Foreign products re-reported		46,070	
			1,013,946

The government of Guadaloupe and its dependencies is similar to that of Martinique, already described, viz., a Governor, a Privy Council composed of six members, three of whom are appointed *ex-officio*, and a Colonial Council of 30 members, elected by the owners of landed

property in the island. The interests of the colony are intrusted to two agents or delegates in Paris who are elected by the Colonial Council, and form part of the Colonial Committee of 7 members, who advise with the central government upon colonial matters. The internal regulation of the island is managed by municipal councils, the functions of which are the same as those of the like bodies in Martinique.

These islands were discovered by Columbus in November, 1493. Guadeloupe was then inhabited by Caribs. Nearly a century and a half elapsed before any settlement was made there by Europeans. In 1635, the French governor of St. Christopher, and M. Duplessis, landed with 550 persons, and a cruel war was undertaken against the natives, which lasted four years. A second war broke out in 1655, and a third in 1658, which ended in 1660, when the few surviving Caribs agreed to evacuate the island, and went to Dominica and St. Vincent. Previous to this time, a small party of Dutchmen, driven away from Brazil, took refuge in Guadeloupe in 1653, and, having about 1200 negro slaves with them, began the cultivation of sugar.

In 1759, Guadeloupe was taken by the English, but was restored to France at the peace of 1763. In April, 1794, the island was again taken by the English, but was retaken by the French in a few months afterwards. In February, 1810, Guadeloupe and its dependencies fell once more into the possession of the English, but they were restored at the peace of 1814, and have since remained in the possession of France.

8. North of 16° 13' N. lat. the Lesser Antilles form two chains, lying south-east and north-west, of which the south-western, comprehending the islands of Montserrat, Nevis, St. Christopher, and St. Eustatius, are volcanic: the islands in the north-eastern chain, Antigua, St. Bartholomew, and St. Martin, are formed of limestone rocks, and exhibit few traces of volcanic action. Barbuda and Anguilla consist mostly of coral rocks.

MONTSERRAT.

Montserrat, which belongs to the British, is a mass of rock, the surface of which is diversified by a succession of hills and valleys. There are some precipitous mountains, which however attain no great elevation, and are densely clothed with trees of heavy growth. This island has no harbour. The capital is Plymouth. The area of the island is about 47 square miles.

The population of the island when last taken in 1828, was,---

	Males.	Females.	Total.
Whites	143	169	312
Free coloured persons	324	503	827
Slaves	2,912	3,068	5,980
Total			7,119

The number of slaves living on 1st August, 1834, and for whom compensation was made out of the parliamentary grant, was 6401. The sum awarded for them was 103,556*l.* or 16*l.* 3*s.* 7*d.* per head. They were classed as follows :—

Prædial, attached	. . . . .	3,954
„ unattached	. . . . .	556
Non-prædial, including 393 domestic servants		516
Children under 6 years	. . . . .	1,145
Aged and diseased	. . . . .	230
Total	. . . . .	6,401

The climate of Montserrat must be considered favourable to the health of Europeans, as compared with the other British West India Islands. During 20 years, from 1817 to 1836, the average mortality among the troops was not more than 4 per cent. There is less fever than in the other British colonies in the West Indies. The increase by births, over the decrease by deaths, among the slaves, was 115, between 1817 and 1827, out of a population of 6610. Since the year 1834, many of the labouring population have gone to Trinidad and Demerara, tempted by higher wages than could be got at Montserrat.

The exportable produce of the island consists wholly of sugar, molasses, and rum. The quantities shipped in 1836 were :—

Sugar	. . . . .	1,297,686 lbs.
Molasses	. . . . .	33,300 gallons.
Rum	. . . . .	17,930 „

The total value of imports in that year was 9219*l.*, and of exports 19,069*l.*

Montserrat is a dependency of Antigua, but has a local council, and house of assembly, the former consisting of eleven members appointed by the crown, the latter of twelve members elected by the freeholders.

The island was first settled by a party of Englishmen, under Sir Thomas Warner, in 1632. It was taken by the French in 1664, but was restored at the peace of Breda, and has since continued subject to England. A majority of the white inhabitants are Irish, or the descendants of Irishmen.

NEVIS.

Nevis is a rock which rises from a bold shore rather abruptly to the base of a conical mountain, which occupies its centre, and attains an elevation of above 3000 feet. It is for the most part covered with trees. Of the surface of the island, containing about 24,640 acres, only 6000 are capable of cultivation, but the soil is very fertile, and produces excellent sugar. Charlestown, the capital, is a neat, well-built place, with a good roadstead, where ships find safe anchorage.

The population of Nevis has not been ascertained for many years. In 1788 it contained 1514 whites, 140 free blacks, and 8420 slaves. The estimated number of inhabitants in 1836 was 9250, of whom not

more than 500 were whites. The number of slaves, on 1st August, 1834, in respect of whom compensation was made, was 8815, and the money paid for the same 151,006*l.*, or 17*l.* 2*s.* 7*d.* per head. They were classed as—

Prædial, attached	5,123
„ unattached	176
Non-prædial, including 1207 domestic servants	1,926
Children under 6 years	1,261
Aged and diseased	329
	<hr/> 8,815

The climate appears to be fully as healthy as the average of the West Indies, but the only returns that are available for estimating its effects on Europeans, viz., those from military hospitals, include, with the soldiers quartered at Nevis, those stationed at St. Christopher's and Tortola; and it is, therefore, not possible to state those effects with the necessary degree of exactness. The decrease among the slave population by natural causes, i. e. the excess of deaths over births, in 14 years from 1817 to 1831, was 213 in a population of 9602. Since 1831 the mortality appears to have been greater; the number of slaves being less in 1834 by 327, but this includes the number manumitted, which is not known.

The only exportable products of Nevis are sugar, molasses, and rum. The quantities exported in 1836 were:—

Sugar	2,724,836 lbs.
Molasses	37,120 gallons.
	12,290 „

The value of the exports was 34,885*l.*, and of the imports 32,511*l.*

The island is divided into five parishes. It has a local legislature, consisting of a Lieutenant-Governor, a Legislative Council of 11 members, and a House of Assembly of 15 members.

Nevis was first colonized by the English in 1628. In all its political changes it has followed the fate of the neighbouring island, St. Christopher.

St. CHRISTOPHER.

St. Christopher, or *St. Kitts*, which belongs to the British, extends from south-east to north-west about 21 miles, and is 16 miles across in the widest part. It contains 44,000 acres, of which about 30,000 are cultivable. On the main body of the island, a few miles from the north-western extremity, Mount Misery rises to the elevation of 3712 feet. It is surrounded by a hilly and broken country, which extends in all directions to the shore, forming a bold coast, except on the south and south-east, where it is succeeded by an inclined plain, and terminates in a low level tract. A rocky isthmus unites this level country with the south-eastern part of the island, which is generally broken, rocky, and barren, but in its southern parts contains several

salt-ponds, where considerable quantities of salt are collected in dry weather. The district which includes these salt-ponds is covered with salt incrustations resembling white frost. Basse-terre, the capital of the island, has regular streets, but is mostly built of wood. The anchorage is an open roadstead, exposed to a heavy surf, especially when the wind blows from the south or west. The population of Basse-terre is 6400. Sandy Point Town, towards the north-western extremity, has also some trade. The island is divided into nine parishes.

The population of the island in 1833 consisted of—

Whites	. . . . .	1,612
Free black and coloured	. . . . .	1,996
Slaves	. . . . .	19,525
Total		23,133

The number of slaves, on 1st August, 1834, was 19,780, and the compensation money, paid for the same out of the parliamentary grant, was 329,393*l.*, or 16*l.* 13*s.* per head. They were classed as follows:—

Prædial, attached	. . . . .	11,764
„ unattached	. . . . .	837
Non-prædial, including 2571 domestic servants		3,066
Children under 6 years	. . . . .	3,198
Aged and diseased	. . . . .	915

19,780

The climate is at least as healthy as that of the West India colonies generally; but, for the reason already assigned as to St. Lucie, it is not possible to give the same details upon this subject as are given for other colonies, in which the returns of the garrison are kept distinct from those of any other locality. The decrease by deaths beyond the number of births, among the slave population, during the 14 years from 1817 to 1831, was 344 among 20,168. On the other hand there appears to have been an increase in their numbers of 695 beyond those manumitted between 1831 and the 1st August, 1834.

The exports are almost entirely confined to the products of the sugar-cane, for the cultivation of which the soil is well adapted. Of late years, a small quantity of arrow-root has been shipped.

The quantities exported in 1836 were:—

Sugar	. . . . .	8,217,762 lbs.
Molasses	. . . . .	257,290 gallons
Rum	. . . . .	41,180 „
Arrow-root	. . . . .	7,502 lbs.

The value of the exports in that year was 145,703*l.*, and of the imports, 98,344*l.*

There is a Lieutenant-Governor resident on the island, which has a local legislature; the Council consists of 10, and the House of

Assembly of 24, members, in addition to whom one member is deputed from Anguilla.

St. Christopher was discovered by Columbus in 1493, when it was thickly peopled by Caribs. The earliest settlement was made in 1623 by the English. In 1625 a number of French colonists arrived, and the European intruders were attacked by the natives, but with the usual result—2000 of the Caribs being destroyed in the conflict, while the loss of the white men was comparatively small. Upon this, the English and French divided the island between them: *Basse-terre* became the portion of England, and *Capis-terre* of France. It was agreed in the articles of partition that the harmony of the two people should not be disturbed by the breaking out of hostilities between their respective countries: but this arrangement was violated on the first occasion; and the French, proving the stronger party, drove away the English settlers, and maintained their sovereignty of the whole island against a large force sent from England. At the peace in 1668 its portion of the island was restored to England. In 1689 the English were again expelled, but in the following year the island was taken by a British force, and it remained in British possession until the treaty of Ryswick, when its part was again restored to France. In 1702 the English again took possession of the whole, and by the treaty of Utrecht in 1713 the island was ceded to England: it was again taken by France in 1782, but was restored at the general peace in 1783, and has since remained in the possession of England.

St. Eustatius, a Dutch colony, has an area of between 20 and 25 square miles. Its shores are rocky and bold, and present no safe landing-place. The surface is uneven and broken, and rises towards the interior of the island, the centre of which is occupied by an extinct volcano of considerable elevation: the crater of this volcano contains the only water that is found in the island. The population consists of between 300 and 400 whites and coloured persons, and about 2000 slaves. The town of St. Eustatius is built on uneven ground, and contains some extensive buildings and warehouses, but they exhibit signs of decay. It is a free port, but has only a roadstead.

Saba, which also belongs to the Dutch, is a rock rising abruptly from the sea, but terminating in a tolerably level surface, which is covered with a rich vegetable mould. The island is nearly inaccessible on account of the shoals which surround it. The area is about 10 square miles, and it is inhabited by 450 individuals, of whom 150 are slaves: sugar, cotton, and tobacco are grown.

ANTIGUA.

Antigua, an English island, is about 18 miles in length, and 12 in breadth, having the form of an irregular oval. The area is about 107 square miles. The shores, which are high and rocky, are indented on all sides by harbours, bays, and creeks, and lined, particularly on the north-

and eastern coasts, with small rocky islets. With the exception of a range of mountains, called the Sheckerley Mountains, in the southern and south-western districts, the highest of which is not more than 1500 feet above the sea-level, the island is tolerably level and well cultivated: the only irregularities in this part of the surface are slight elevations, broken grounds, and some few water-courses. Water, however, is scarce, owing to the want of springs, and none of the rivulets have water in them all the year round. The surface of the island is about 69,000 acres, of which more than one-half is covered with sugar plantations: on the remainder provisions are raised. Antigua has several good harbours: the best is English Harbour, on the southern coast, which has a narrow entrance, but is capacious enough to receive the largest ships, and very safe, being surrounded by high hills. It is the station of the royal ships in time of war, and has a well-arranged dock-yard. This harbour is divided by a narrow isthmus from Falmouth Bay, another good port, at the bottom of which is Falmouth, a small but thriving place. St. John, the capital of the island, is built on a deep harbour, of irregular form, which has a narrow entrance, but is well sheltered by the surrounding hills. The town is of considerable extent, occupying a space of three-quarters of a mile in length from east to west, and about half a mile in breadth: the streets cross one another, and are turned to the cardinal points. The town contains many dwellings and warehouses, well built of stone, and about 16,000 inhabitants.

There has been no census of the population taken since 1821. The numbers then were:—

	Males.	Females.	Total.
Whites . . .	1,139	841	1,980
Free coloured and blacks	1,706	2,360	4,066
Slaves . . .	14,454	16,531	30,985
Total . . .	17,299	19,732	37,031

The government returns of 1836 stated that the population then amounted to 35,300 souls.

The number of slaves, in respect of whom compensation was allowed in August, 1834, was 29,121, and the amount paid 425,547*l.*, being *4*l.* 12*s.* 3*d.** per head. They were classed as follows:—

Prædial, attached	19,641
" unattached	727
Non-prædial, including 2232 domestic servants	2,982
Children under 6 years	4,327
Aged and diseased	1,444
Total	29,121

The climate of Antigua, in 1836, the average an

During 20 years, from 1817 to 1836, the average an
g the white troops was little

more than half the average of the West Indies generally, or 40 in each 1000. The rain which falls in the course of the year does not exceed on the average 45 inches, and the island occasionally suffers much from drought. The temperature is not so high as in the neighbouring islands, and is not subject to any great alternations. From a register, kept throughout the year 1834, it appears that the lowest temperature was 69° Fahrenheit, in February, and the highest was 96° in June: the thermometer seldom ranges more than four or five degrees during the 24 hours. During the 14 years, from 1817 to 1831, the decrease by deaths, among the slave population, was more than compensated by births, to the amount of 700 souls.

The exportable products of Antigua are sugar, molasses, rum, and small quantities of arrow-root and tobacco.

The quantities shipped in 1836 were:—

Sugar	. . . . .	15,739,108 lbs.
Molasses	. . . . .	522,050 gallons
Rum	. . . . .	11,362 „
Arrow-root	. . . . .	25,290 lbs.
Tobacco	. . . . .	21,000

The rum is of excellent quantity. The value of exports in 1836 was 175,808*l.*, and of imports 191,817*l.*

The fruits and edible vegetables grown in the island are very abundant, and of remarkably fine quality.

Antigua is divided into six parishes. The governor of this island is governor also of Montserrat, Barbuda, St. Christopher, Anguilla, Nevis, Dominica, and the Virgin Islands. Antigua has a local legislature, consisting of a Council of 10, and House of Assembly of 25 members.

The island was discovered by Columbus in 1493. It was settled in 1632 by Sir Thomas Warner and a few English families. In 1663 it was granted by Charles II. to Lord Willoughby. In 1666 it was taken by the French, who did not long retain possession, and it has not since been molested by invasion.

The legislature of Antigua totally abolished slavery within the island on the 1st August, 1834, not adopting the intermediate stage of apprenticeship provided in the Slavery Abolition Act by the English parliament. The superior moral condition of the negro population, as compared with that of the other slave colonies, rendered this course practicable, and nothing has yet arisen to occasion any regret for that step.

Barbuda, an island belonging to the British, is about 15 miles long from south-east to north-west, with a breadth of 10 miles in the widest part. The coast is nearly surrounded by rocks and shoals, between which there are only a few narrow passages for small vessels. The surface of the island is generally flat, and covered with a thick forest, intersected with some patches of savannas. The highest

of the island, which is towards the eastern shore, does not exceed 100 feet above the sea level. A narrow neck of land extends along the eastern shores in a direction parallel with the coast, and forms a lagoon 10 miles long, the water of which, owing to its communication with the sea at the northern extremity, is brackish. The island contains above 1000 acres, of which only 500 are cultivated; but the uncultivated tracts supply pasture for sheep and cattle. Turtle and fish abound. Indian corn is raised, and also a little cotton and tobacco.

1. *Bartholomew*, a Swedish island, has a surface of about 25 square miles. It merely consists of a number of rocky hills, rising gently from the sea to an elevation probably not exceeding 500 feet. The steeper declivities of the hills are partly cultivated, and partly covered with grass and underwood. Its soil is not distinguished by fertility, but it produces cotton and a little sugar. The population is 1600, of which 1000 are slaves. Gustavia, the capital, has 900 inhabitants. Its harbor, which is called Carenage, is a free port, and much frequented.

2. *St. Martin* has an area of somewhat more than 80 square miles. It consists of a mass of rocky hills, covered with vegetable mould: the hills are not high, but in many places extend to the shores of the sea. Where they do not reach the shores, there are small salt lakes, from which much salt is collected. Sugar, cotton, and salt are exported. This island is divided between the French and Dutch: the Dutch part of the island contains above 4000 inhabitants, of whom more than 1000 are slaves. St. Martin is a dependency on Guadaloupe, so far as the French part is concerned, and its statistics have been included, as far as possible, in the account of Guadaloupe.

Anguilla, or *Snake Island*, so called from its form, belongs to the British: it is 15 miles long, and 6 miles wide in the broadest part. It is so low and flat that it can only be seen at a distance of 10 or 12 miles. The soil is calcareous and of very indifferent fertility: it is deficient in wood and water; the lakes which occur are salt, and in some of them salt is collected. Sugar, tobacco, and cotton are raised in small quantities. Between this island and St. Martin there is good anchorage.

VIRGIN ISLANDS.

1. The islands situated between $17^{\circ} 30'$ and 19° N. lat., and between 64° and $65^{\circ} 30'$ W. long., are comprehended under the general denomination of the *Virgin Islands*. Though some of them rise to a considerable elevation, no trace of volcanic agency occurs in them. They are exposed to a very heavy swell of the sea from the north, which rages, and subsides when the air is calm; and when there is no indication whatever of a previous gale, the waves approach in gentle undulations, but suddenly swell against the shore, and break with the most impetuosity. The small islands are very numerous, but they

cannot be cultivated on account of these heavy swells, which interrupt all communication between the islands for weeks together. The larger islands are the following, taken from east to west:—

Anegada, a British colony, is 10 miles long from east-south-east to west-north-west, and two miles wide: it contains 9130 acres. Its base consists of coral rocks: the highest elevation, which is in the south-east, is only 60 feet above the level of the sea. The western and northern portions of this island are covered with dunes. In the west and east there are some small salt lakes, in which a great quantity of salt is collected in July and August. Fresh water is found everywhere. The island is inclosed by a very dangerous reef. Though the soil is fertile there are very few trees, and it is very thinly inhabited, the population being only 211 inhabitants.

Virgin Gorda, sometimes called Penniston, which has been corrupted to Spanish Town, a British island, contains somewhat more than 10 square miles. It is very mountainous in the east part, where it rises to the height of 1000 feet and is completely barren. But the peninsula, which stretches out in a south-western direction, is only of moderate elevation: it is called the valley, and contains several settlements.

Tortola, a British possession, is about 12 miles long from east to west, and on an average four miles wide. It consists of one mountain mass, the highest parts of which run through the middle of the island from one extremity to the other, and rise in abrupt and irregular forms. In the Sage Hills, towards the western side of the island, they attain an elevation of 1560 feet. A few small tracts of flat ground are found along the shores. Road-town, the capital, is a small place on the south side of the island, in the corner of a deep bay.

The population of these three islands,* in 1835, consisted of—

	Males.	Females.	Total.
Free persons, white and coloured	1,678	1,902	3,580
Apprentices	1,944	2,207	4,151
Total	3,622	4,109	7,731

The number of slaves on August 1, 1834, in respect of whom compensation was paid, was 5135, the sum awarded for whom was 72,638*l.* or 14*l.* 2*s.* 10*d.* per head. They were thus classed:—

Prædial, attached	2,796
„ unattached	620
Non-prædial, including 738 domestic servants	902
Children under six years	749
Aged and diseased	68
	—5,135

* Except in Tortola the number of inhabitants is very small indeed, and composed of people who live a very simple life, cultivating roots and vegetables and fruits, raising poultry, fishing, and growing a little cotton, which last they exchange for such manufactured goods as they may require.

whole of the islands are comprised within one parish: the climate is more healthy than the average of the West India islands, and the temperature is not so high as in most of them.

The exportable products consist of sugar, molasses, rum, cotton, and some of which is produced on one of the smaller islands, to which, in consequence, the name of Salt Island has been given. The quantities shipped in 1836 were—

Sugar	.	.	1,572,032 lbs.
Molasses	.	.	27,110 galls.
Rum	.	.	5,200 „
Cotton	.	.	16,500 lbs.
Salt	.	.	3,324 bushels.

The total value of exports in that year was 23,129/., and of imports 10/.

During the war Tortola carried on a brisk trade with the neighbouring Danish island St. Thomas, and through the merchants of that place with Puerto Rico and the Spanish Main, but its commerce is now confined to the wants of its own population.

The residence of the Lieutenant-governor is at Tortola, and the meetings of the local legislature are held at Road-town in that island. These islands were discovered by Columbus in 1493, and were named in honour of the 11,000 Virgins. The first settlers were Dutch, who landed in 1648: they were expelled by the English in 1666, when the islands have remained in the possession of England.

St. John, a Danish island, is about ten miles long, and five miles wide at the broadest part. It consists of a mass of rugged and uneven rocks, the highest of which perhaps attains 1000 feet. Along the coast there are a few small level tracts. The soil is fertile, and produces sugar and cotton. The capital, St. John, is a small place. The population of the island is about 2,500, of which number 150 are whites, and the rest coloured people.

St. Thomas, a Danish colony, is about 12 miles long, and on an average four miles wide. Its area is about 50 square miles: it is very fertile and broken, and rises with abrupt ascents and descents to a considerable elevation in the middle. Though hilly, the island is not in water: the soil is indifferent, and, though well cultivated, produces little sugar and cotton is not great. The capital, of the same name, is built on the southern coast of the island, on three conical hills, well fortified. The harbour is so safe and capacious that 200 ships can anchor in it. Being a free port, it carries on a great trade, and has 3000 inhabitants. The population of the island is about 8000, of whom are 1500 whites, and 1800 free coloured people.

St. John's, or *Passage Island*, a Spanish colony, is about eight miles

long, and on an average two miles wide, but of a very irregular form. It contains about 10 square miles, is rocky, and rises to a moderate elevation. Sugar and cotton are cultivated. The population is about 300.

Bique, or Crab Island, is about 16 miles long, and about three or four miles wide. The part lying towards the east, which is about two-thirds of the surface, is low, and covered with trees and bushes. Towards the western extremity it rises into hills from 600 to 800 feet high. The island has no harbour but contains some good roadsteads. This island is uninhabited, but the British, Danes, and Spaniards have the right of cutting wood and fishing: they are, however, not permitted to form settlements on it.

Santa Cruz, a Danish island, the largest of the Virgin Islands, lies farther south, and at a considerable distance from the group. It is about 21 miles long from east to west, and 6 miles wide, where widest, and has an area of more than 100 square miles. Its surface is a plain, diversified only by slight undulations, and it is traversed by three excellent roads running from east to west, at equal distances from each other. The soil is good and well cultivated. Sugar is the staple article, and it also produces fine fruits, some cotton and provisions. Both spring water and wood are scarce. Christianstadt, on the northern coast, has a small harbour, which is difficult of access, owing to a reef which runs nearly across its entrance. The town is well built and contains many fine houses of stone or brick: all the streets are wide, long, and straight, and intersect one another at right angles. It contains 5000 inhabitants. The population of the island is about 32,000, namely, 27,000 slaves, 2,500 whites, and 2,500 free people of colour.

THE GREATER ANTILLES.

10. The *Greater Antilles* are sometimes considered as the remains of an extensive mountain system, which has been partly destroyed by the irruption of the Atlantic Ocean. The eastern portion, between 66° and 71° W. long., consists of one great range, as it still appears in the island of Puerto Rico and the eastern part of Haiti; but between 71° and 72° W. long. the range forms a mountain-knot in the mountains of Cibao, and west of it divides into two separate ranges, which diverge at a very acute angle, and are prolonged in the island of Haiti to Cape Tiburon on the south, and Cape St. Nicholas on the north. The island of Jamaica may be considered as the continuation of the southern range, and that of Cuba as a prolongation of the northern. The highest portions of this range occur in the mountain-knot of Cibao, and in the eastern districts of Jamaica and Cuba. The range which lies east of the mountains of Cibao preserves a considerable elevation in all its extent, but west of the high mountains of Cuba and Jamaica it gradually subsides

into hills, and in the island of Cuba it assumes the appearance of an undulating country. No traces of volcanic action occur in this range. In some places the range is skirted by level plains, which in the island of Haiti are extensive.

11. Though these islands are situated near the tropic, and on the verge of the torrid zone, the climate does not differ materially from that of the Lesser Antilles, the mean annual temperature being about 78° , or hardly more than 2° below that of the Lesser Antilles. The thermometer never sinks below 60° in the plains, except in the western districts of Cuba; though during the season of the greatest heat it frequently rises above 90° . Frost and snow do not occur even on the summits of the highest mountains. In the western districts, however, of the island of Cuba, after a long continuance of north-western winds, the thermometer sometimes sinks to 40° and even lower. In these districts, too, the changes of temperature are more rapid and more considerable. There are instances in which within a few hours the change has amounted to above 15° —a phenomenon which may be attributed to the north-western winds blowing over the great plains of North America. As these islands extend from east to west, and are traversed in that direction by mountain ranges, the seasons differ in some degree from those of the Lesser Antilles. Along the southern coasts of Puerto Rico, Haiti, and Jamaica, the rainy season commences in the middle of April or beginning of May, and lasts to the end of November: it is however interrupted by about six weeks of dry weather which occur in the months of June and July in Puerto Rico and Haiti, but in the island of Jamaica in August and September. The rains which precede this dry weather are moderate in the eastern part of the group, and last only for a few weeks: they come down in showers, and are not generally attended by storms. But farther westward, especially in the island of Jamaica, they are immediately followed by the great rains in June and July, which descend in torrents every day for two or three hours, and are accompanied with thunder-storms. The autumnal rains, which occur in the island of Jamaica in October and November, are by no means so heavy as those which precede the hot season. But in the islands of Haiti and Puerto Rico the heavy rains occur in August and September, and terminate in October: they are equally abundant and attended with thunder-storms. On the southern coast of these islands the long dry season begins in November and terminates in April, during which time the sky is cloudless, and neither rains nor storms occur. Droughts are frequent.

On the northern side of these islands the rainy and dry seasons do not entirely depend on the position of the sun, and are not confined to certain parts of the year. Though during the long dry season fine weather generally prevails, it is frequently interrupted by heavy showers, which sometimes occur nearly every day during that season, especially

in the island of Haiti: this circumstance may be partly ascribed to the northern and north-eastern winds, which at that time blow with violence. The rains during the wet season are less heavy and less regular on this side of the island. In Cuba no month is free from rain, but by far the greater quantity falls during the season of the great rains of Jamaica; from the end of May to that of July. The mean annual quantity of rain in these islands varies, in different parts, between 48 and 64 inches.

During the cold season these islands are much exposed to boisterous north winds, except Jamaica, which is protected from them by the elevated mountain range which extends over the eastern districts of Cuba. During the summer they are sometimes visited by hurricanes, which occur in the eastern islands from July to September, but in Cuba from August to October, especially in the latter month. In Cuba they are, however, less violent, and rarely cause any great damage.

12. As the difference of climate between the Greater and Lesser Antilles is not considerable, their productions do not materially differ. The mountains in the Greater Antilles, however, being generally clothed with extensive forests, supply great quantities of mahogany and dye-woods. The plains, which chiefly consist of natural meadows, maintain numerous herds of cattle, horses, and mules, and accordingly there is an export trade in animals and hides. In other respects the exports are the same as from the Lesser Antilles, but tobacco, pimento, and ginger also constitute considerable articles of trade.

13. *Puerto Rico*, a Spanish colony, is about 90 miles in length from east to west, with an average breadth of 33 miles; the area is 2970 square miles. The interior of the island consists of an extensive mountain mass which probably rises to an average height of about 1500 feet. The highest summit is the Sierra de Languillo, which attains an elevation of about 3678 feet above the sea level, and occupies the most north-eastern part of the island. The mountain mass in the interior appears to extend in two ranges which run parallel to the southern and northern coasts. Between these ranges there are depressions of different degrees of elevation, sometimes spreading out in valleys and sometimes in elevated plains of moderate extent. The climate of this portion of the island is healthy, and well adapted to the cultivation of the different grains of Europe. Towards the east and south the mountains descend with rather a steep declivity, and in some places approach close to the sea. The plains which lie along the southern coast are rarely more than two or three miles wide. On the northern and western sides the declivity of the mountains is less rapid, and only a few of its lower offsets approach the sea; so that between the shores and the base of the mountains the flat country is commonly five, and in some places ten, miles wide. All the low country of the island is covered with an alluvial soil of great fertility. The rivers which descend from the northern declivity of the mountains, being

supplied with water, and unable to discharge it quickly through the low plains which they traverse, have formed nearly along the whole of the northern coast a number of lagoons of inconsiderable width, but great length. Some of these lagoons are 10 miles long: being united by natural or artificial channels, they facilitate the transport of goods in these parts. Some of the numerous rivers which traverse these northern plains are navigable to the foot of the mountains, a distance of six or eight miles from their mouth, for schooners and small coasting vessels: but as this part of the island, like the Virgin Islands, is exposed to a very heavy swell of the sea from the north, all these rivers have bars across their mouths, which prevent large vessels from entering them.

The coasts are indented by numerous bays and creeks deep enough for vessels of considerable burden; but the northern harbours are exposed to the gales which blow from the east and north-east during November, December, and January; and the southern harbours are exposed to a heavy surf from June to November, owing to the prevalence of the southerly winds in that season. There are only three harbours which are safe all the year round; namely, the harbours of Guanica and Hovas on the southern coast, and the harbour of S. Juan on the northern coast. Vessels drawing 21 feet of water may enter with perfect safety, and anchor close to the shore, in the port of Guanica, which is a spacious basin completely land-locked: its shores are uninhabited. The port of Hovas, not far from Guanica, is large enough to hold the whole British navy, and it has four fathoms of water in the shallowest part of its entrance: it is, however, difficult of access from June to November, owing to the sea breaking violently at its entrance. The port of S. Juan is perfectly sheltered even from the north winds, as the hill on which the town and its fortifications are built protects the vessels at anchor in the harbour; but the entrance is narrow, though deep enough for vessels of any dimensions. This harbour is several miles in extent, and possesses the advantage of having deep channels on its eastern side, where vessels are perfectly secure even during the hurricane month. Vessels of 250 tons can unload and take in their cargoes at the wharfs.

The town of San Juan de Puerto Rico is built near the entrance of the port of San Juan, on the southern slope of a small hill, on whose summit is a fortress called Moro Castle: it stands on a narrow island about two miles long, which is connected with the main by a substantial bridge. In 1828 it contained 800 stone and brick houses, besides some wooden houses in the suburbs and outside the walls: the houses are generally two stories high, with flat roofs for the purpose of collecting the rain-water. The streets are perfectly straight, and cross each other at right angles. San Juan is stated to contain 30,000 inhabitants: there are several good public buildings, among which the Royal Military Hospital is the principal; and it carries on a considerable trade. The smaller

towns of Puerto Rico are Aguadilla and Mayaguez on the western coast; S. German, near Cape Roxo, in a very populous district; Ponce, on the southern coast; Humacao and Fajardo on the eastern coast; and in the interior, Pepino and Cayey.

The population of Puerto Rico, according to returns made by the Spanish government, at various periods, from 1802 to 1836, has been as follows :—

	1802.	1812.	1820.	1830.	1836.
Whites . . .	78,281	85,662	102,432	162,311	188,869
Free coloured . .	55,164	63,983	86,269	100,430	101,275
„ blacks . . .	16,414	15,883	20,191	26,857	25,124
Slaves . . .	13,333	17,536	21,730	34,240	41,818
Total . . .	163,192	183,064	230,622	323,838	357,086

‡ Since the land has been cleared and drained for cultivation, the climate has become more favourable to human life than that of most of the West India Islands. From the returns made to the Spanish government, of the deaths that occurred among the European troops in three years from 1829 to 1831, it appeared that the average annual mortality was at the rate of 50 in each 1000. Among the natives of the island, great longevity is frequent; many live to the age of 80, 90, and 100, and cases have been stated of individuals reaching the age of 120. The temperature in the valleys and on the shore is very high, while at a few leagues distance on the mountains it is at the same time from 20 to 30 degrees lower, according to Fahrenheit's scale. Observations, made at San Juan, show that the temperature is highest in August, and lowest in February. The temperature in these months was found to be as follows :—

	February.	August.
At 9 in the morning . . .	72½	86
At noon . . .	81	92
At 5 in the evening . . .	74	90

The rainy season occurs in August and September, and the quantity of rain that falls in the interior and on the north coast is exceedingly great, but on the south coast it sometimes happens that not a drop of rain falls during the whole year.

The exportable products of the island consist of sugar, molasses, rum, coffee, cotton, and tobacco. A considerable number of hides are likewise shipped, and cattle and a small breed of horses are reared for the supply of the neighbouring English and Danish colonies.

The productive powers of the island have been very greatly increased since the beginning of the present century. At that time the only external trade carried on consisted of cattle, horses, and plantains, sent to the neighbouring islands, in exchange for a few manufactured goods.

The little sugar grown in the island scarcely sufficed for the use of the inhabitants.

The produce exported in 1803, consisted of 2632 cwt. of coffee, 1416 cwt. of sugar, 972 cwt. of tobacco, 917 cwt. of cotton; the total value of which was 57,000 dollars. In 1810, the exports of those articles were valued at 662,630 dollars; and the goods imported were valued at 1,005,694 dollars. The quantities of produce exported in each of the years 1828, 1832, and 1836, were as follows:—

	1828.	1832.	1836.
Sugar . .	182,826	346,534	498,888 cwt.
Molasses . .	374,174	1,187,244	1,724,661 gallons.
Rum . .	437	352	360 bocoyes
Coffee . .	111,609	168,191	52,772 cwt.
Cotton . .	4,791	5,373	19,522 „
Tobacco . .	24,061	36,024	49,542 „
Hides . .	5,178	3,887	8,686 „
Cattle . .	6,877	4,072	4,911 No.

The total value of the exports in 1836 was 4,099,575 dollars, and the value of imports in the same year was 4,005,944 dollars, about one-third of which consisted of provisions: the remainder was made up of plantation stores and manufactured goods from Europe and the United States of America.

The number and tonnage of vessels that entered and cleared at Puerto Rico in the year 1836, and the countries to which they belonged, were as follows:—

	Inwards.		Outwards.	
	Ships.	Tons.	Ships.	Tons.
Spain . . .	707	29,161	659	27,695
United States . .	302	45,654	319	45,934
Denmark . .	49	4,273	49	4,174
Holland . .	13	702	13	702
Sardinia . . .	8	1,058	8	1,058
Bremen . . .	11	2,048	11	2,100
France . . .	91	7,052	94	7,208
England . . .	37	2,772	35	2,658
Sweden . . .	7	216	7	216
Hamburg . . .	3	541	3	541
Total	1228	93,477	1198	92,286

The Customs' duties received in each of the years from 1828 to 1836 were as follows:—

	Dollars.	Dollars.	Dollars.
1828 . . .	522,034	1831 . . .	586,405
1829 . . .	536,544	1832 . . .	700,544
1830 . . .	584,990	1833 . . .	688,892
		1834 . . .	750,930
		1835 . . .	746,285
		1836 . . .	800,025

These duties form about five-eighths of the public revenue of the

island : one-eighth is raised by means of stamp-duties and some small taxes on consumption, and the remaining one-fourth is raised from the landed proprietors in the form of a property-tax, the amount of which is settled and collected by persons appointed by the tax-payers themselves. By these means a considerable surplus is raised beyond the wants of the colony, and is remitted to the mother-country. For three centuries the island was used by Spain as a place of confinement for malefactors sent from the mother-country, and during all that time the colonists made no progress in cultivation or in commerce : the revenue raised did not suffice for the expenditure, and a large sum was sent annually to the governor from Mexico. The loss to Spain of her possessions on the continent of America drew attention to its remaining colonies, and Puerto Rico was then freed from the degrading condition in which it had so long been kept. The colonists were declared free from the payment of various imposts that had oppressed them ; free settlers from other countries were encouraged by the remission of taxes, and the trade of the island was thrown open to all nations. To these measures must be attributed the rapid progress that has been here described.

At the time the island was discovered by Columbus in 1493 it is said to have contained 600,000 inhabitants, but this is probably an exaggeration : they were all speedily exterminated by the Spanish settlers. In 1594 the town of San Juan was attacked unsuccessfully by Sir Francis Drake : it was plundered by the Earl of Cumberland in 1597, and in 1799 was again attacked without success by a British fleet under Sir Henry Harvey.

14. *Haiti*, also called *San Domingo* and *Hispaniola*, (Little Spain,) is about 400 miles long, and 150 broad, in the widest part. Its surface is about 25,000 square miles, or nearly equal to that of Ireland. Near its centre is a mountain-knot, called Cibao, the highest summits of which are supposed to be about 8000 feet above the sea ; from this point lower ranges extend in different directions, running mostly from east to west. On the east, however, they are only of moderate elevation, and surrounded by extensive plains which in several parts are destitute of trees, and contain extensive pasture-grounds. The largest of these plains lies along the southern coast, and is called *Los Llanos* (the plains) : it extends from the town of San Domingo, eastward to Higüey, a distance of about 80 miles in length, and 30 in breadth. It is separated by a low range of mountains from another plain lying north of it, and called *La Vega*, which extends from east to west 50 miles, and is about 30 miles wide : this plain, which is very fertile, is watered by the river *Yuna*, which falls into the bay of Samana. The island of Samana, which lies on the north side of this bay, is united to the mainland by a low isthmus covered by the sea at spring-tides : it is low and swampy, and on that account nearly uninhabited. Along the northern shores west of the island of Samana, the mountains rise close to the sea, with a steep ascent and to a considerable elevation, leaving only a few level tracts of

moderate width between them and the sea. But at the back of these mountains there is a wide and fertile valley, called the plain of Santiago, which is drained by the river Yague. The mountain knot of Cibao rises near the western extremity of this plain. Three mountain ranges, which attain an elevation of from 2000 to 5000 feet, branch out from this mountain knot, and run to the west, terminating respectively at the western extremity of the island in Cape St. Nicholas on the north, St. Mark's Point in the middle, and Cape Tiburon on the south. Along the southern and northern shores of this western portion of the island, only small tracts of level and cultivable ground occur at intervals; but between the three ranges are included two valleys, or rather plains, called Artibonite and Cul de Sac. The first and northern plain is irrigated by the river Artibonite; and the southern is partly occupied by two lakes, a salt lake called Laguna de Henriquillo, which is 50 miles in circuit, and has no outlet, and a fresh-water lake called Saumache or Azuey. The country between the mountains of Cibao and the southern shores is filled up with high hills and narrow vales, and is very thinly inhabited.

The shores, which are generally rocky, contain a great number of harbours for moderate-sized vessels: some of them are spacious and deep. Near Cape St. Nicholas is the Port of St. Nicholas, which is 6 miles long, and large enough to contain an immense fleet; it is also safe, being inclosed by mountains of considerable elevation: but the surrounding country is little cultivated, and is rather sterile. The harbour of Cape François, on the north coast of the island, is less safe, but it is also spacious, and has good anchorage. The bay of Samana is very spacious, and affords excellent anchorage, but it is not frequented, on account of its unhealthiness. The port of San Domingo is indifferent, being exposed to the southern winds, but it has good ground for holding. In the bay of Gonaïves, which extends between Cape Foux on the north, and Cape Donna Maria on the south, are the harbours of Port au Prince and Gonaïves. Port au Prince has two harbours, formed by some islets, both of which afford good and safe anchorage. Gonaïves has a spacious and safe harbour, with sufficient depth of water for large vessels.

Port au Prince, the capital and seat of government, is situated in the innermost recess of the bay of Gonaïves. The streets are straight, and sufficiently wide, and commodious, but the houses in general are low and mean. It carries on a considerable trade with the United States and Jamaica; and has about 30,000 inhabitants. The town of Cape Haitien, formerly Cape François, on the northern coast, has 12,000 inhabitants, and some trade. San Domingo, on the southern coast, with 15,000 souls, formerly carried on a considerable commerce, especially in jerked beef, cattle, and hides; which, however, is now very limited.

The population of this island is differently stated at between 900,000 and 1,200,000 souls. The number of whites and negroes of pure blood

is small; the bulk of the population consists of Mulattoes, or descendants of Europeans and negroes, and of the descendants of aborigines, mixed with the blood of Europeans or Negroes. The island was formerly divided between the French and Spaniards: it is now a recognised independent state, and the government has the form of a republic; the executive power being vested in a President, chosen for life, and the legislative body consisting of a Senate and a Chamber of Deputies: but it is, in fact, a kind of despotism with republican forms.

The exports of sugar and cotton were formerly very considerable; but now the exports consist chiefly of mahogany, and different kinds of dye-woods, raw hides, jerked beef, coffee, and some cotton. There is said to be gold in the mountains, but it is not worked or collected.

The quantities of the principal products exported in 1836 and 1837 were—

	1836. lbs.	1837. lbs.
Coffee .	37,662,674	30,845,400
Dye-woods	6,767,902	6,036,238
Cotton . .	1,072,555	1,013,171
Mahogany	4,954,944	4,798,262

The receipts and expenditure of the republic in 1836 and 1837 were—

	1836. Dollars.	1837. Dollars.
Receipts .	2,533,843	2,082,522
Expenditure	2,855,029	2,713,102

About one-half of the revenue is derived from import and export duties, about one-eighth from stamps, licenses, and local taxes, and the remainder from "territorial imposts."

The number and tonnage of vessels that entered and cleared at each port of the island in 1836, and the value of their cargoes, were—

	Entered.			Cleared.		
	Ships.	Tons.	Value of Cargoes.	Ships.	Tons.	Value of Cargoes.
Port-au-Prince	120	17,869	£243,490	138	20,283	£401,106
Cape Haitien	73	10,794	131,955	74	10,801	184,550
Jacmel . .	39	4,588	32,248	43	5,082	105,198
Aux Cayes .	51	7,675	38,436	50	7,443	147,361
Gonaives .	44	5,532	13,076	43	5,398	63,970
Puerto Plata .	42	4,122	15,577	37	3,478	19,151
Total .	369	50,580	£474,782	385	52,485	£921,336

Of the above there were of British vessels in all the ports—Entered, 84 ships, 12,807 tons; and Cleared, 99 ships, 15,127 tons. The value of their cargoes was—Inwards, £192,262; Outwards, £357,388.

15. *Jamaica*, which belongs to the British, extends in length from east to west 150 miles: its greatest breadth may be somewhat less than 50 miles. Its surface contains 4256 square miles, which is considerably less than the area of the county of York. The eastern part of the island is elevated, being filled up by the Blue Mountains, the principal ridge of which occupies the middle of the district, and runs nearly east and west. These mountains vary from 5000 to 6000 feet in elevation above the sea; but the highest summits exceed 7000 feet. The valleys which intersect them are generally narrow, but very fertile. West of this mountain tract the plain of *Liguanea* extends along the southern shore: it is about 30 miles long, with an average breadth of about 5 miles, but it is not distinguished by fertility. A range of low hills divides this plain from that of *Vere*, which extends 18 miles from south-east to north-west, with an average width of 7 or 8 miles: it is still less fertile than that of *Liguanea*. To the north of these plains, the hills do not rise much above 2000 feet, and farther to the west they sink still lower, though in these parts also they occupy nearly the whole of the surface, leaving only a few plains of moderate extent along the southern coast: along the northern shores they approach close to the sea. The valleys and level tracts dispersed among these hills are very fertile, and contain large sugar-estates.† Though the rivers are numerous, not one of them is navigable, with the exception of the *Black River*, which is ascended by flat-bottomed boats and canoes to a distance of 30 miles.

Jamaica is well provided with harbours: there are thirty principal ports, capable of affording more or less shelter to vessels. The most considerable is *Port Royal*, or the harbour of *Kingston*, which is 6 miles in length and 2 miles wide. It is divided from the sea by a narrow slip of low land, along which there is excellent anchorage for vessels of any size. The harbours of *Port Morant* and of *Old Harbour*, on the southern, and those of *Lucea* and of *Port Antonio*, on the northern shores, are spacious and safe.

Jamaica is politically divided into three counties—*Surrey*, on the east, *Middlesex*, in the middle, and *Cornwall*, on the west. Its principal town is *Kingston*, which stands on the plain of *Liguanea*, and contains above 33,000 inhabitants: it is regularly built, and has many good houses. *Port Royal*, once the capital of the island, is now a small place near the entrance of the port of *Kingston*: *Santiago de la Vega*, commonly called *Spanish Town*, is considered the capital of the island, being the seat of government. It stands in the same plain with *Kingston*, and contains 6000 inhabitants. *Morant Bay*, east of *Port Royal*, has about 7000 inhabitants, and a considerable and increasing trade. On the northern coast are *Falmouth*, with 6000 inhabitants, a thriving place, with a considerable trade—*Montego Bay*, the most commercial town of the island next to *Kingston*, with more than 8000 inhabitants, and a safe harbour—and *Lucea*, with about 5000 inhabitants, and some trade. On the

southern shores are the smaller towns of Savanna La Mar, Black River, and Port Morant; and, on the northern, Port Antonio, Annotto Bay, Port Maria, and St. Ann's Bay.

The population falls rather short of 400,000 souls, of which more than 300,000 are negroes, about 30,000 whites, and perhaps 50,000 of mixed race.

The slave population of Jamaica at various periods from 1817 to 1834, was as follows:—

	Males.	Females.	Total.
1817 .	173,319 .	172,631 .	346,150
1820 .	170,466 .	171,916 .	342,382
1823 .	166,593 .	169,658 .	336,253
1826 .	162,726 .	168,393 .	331,119
1829 .	158,254 .	164,167 .	322,421
1832 .	———— .	———— .	302,666
1834 .	———— .	———— .	311,070

The number in 1834 was that in respect of which compensation was paid to the amount of 6,149,937*l.*, being at the rate of 19*l.* 15*s.* 4*d.* per head. They were divided in the several classes as follows:—

Prædial, attached	198,898
„ unattached	19,558
Non-prædial, including 31,966 domestic servants	36,834
Children under 6 years of age	39,013
Aged and diseased	15,692
Runaways	1,075
Total	311,070

The climate of Jamaica is unfavourable to Europeans. The proportion of deaths among the white troops, on the average of 20 years, from 1817 to 1836, was 121.3 per 1000, or very nearly 1 in 8. The different towns and military stations in the island are not equally unfavourable in this respect. The mortality during the years mentioned was,

At Port Antonio	149.3 in each 1000.
At Spanish Town	162.4 „
At Montego Bay	178.9 „
While it was At Lucea	84.9 „
At Fort Augusta	73.5 „
And at Maroon Town	32.7 „

The great cause of mortality among the white troops in Jamaica is fever: in each 1000 soldiers there died in each year, on the average, from this class of diseases, at—

Port Antonio	126.
Spanish Town	141.1
Montego Bay	150.7
Lucea	63.2
Fort Augusta	55.5
Maroon Town	15.3

The climate is much less unfavourable to the negro population. The army returns for the 20 years from 1817 to 1836 show an average annual mortality of 30 in each 1000; and among the slave population the deaths in 12 years, from 1817 to 1829, the latest year for which the returns are given with regularity, amounted only to 8480 on the average per annum, or less than $2\frac{1}{2}$ per cent. on the whole number.

Jamaica produces for exportation arrow-root, coffee, logwood, ginger, pimento, sugar, molasses, rum, lancewood spars, small quantities of cotton, cocoa, and tobacco. The quantities exported in 1836 were:—

Arrow-root	. . . . .	171,603 lbs.
Cocoa	. . . . .	21,248 "
Coffee	. . . . .	14,247,555 "
Cotton	. . . . .	22,173 "
Logwood	. . . . .	6,116 tons.
Ginger	. . . . .	927,546 lbs.
Indigo	. . . . .	45,374 "
Pimento	. . . . .	7,458,873 "
Sugar	. . . . .	134,238,513 "
Molasses	. . . . .	19,295 gallons.
Rum	. . . . .	2,462,855 "
Tobacco	. . . . .	19,856 lbs.
Lancewood spars	. . . . .	42,127 No.

Among the exports from Jamaica are a considerable quantity of British manufactured goods to Cuba, Guatemala, and Colombia. The total value of exports in 1836 amounted to 3,315,670*l*. The imports, which consisted of the articles usually sent to the West Indies, and of some produce from Spanish America for re-exportation, amounted in the same year to 2,108,606*l*. The difference between the value of the exports and imports is always considerable—a circumstance arising from the fact of the great proprietors being almost wholly absent from the colony, and expending their incomes in England.

The government of Jamaica is administered by a Governor, or Captain-General, appointed by the Crown, an Executive and Legislative Council of twelve members, also nominated by the Crown, and a House of Assembly elected by the freeholders in the island. The Crown has a veto on all acts passed by the colonial parliament.

The island was discovered by Columbus in May, 1494. Its name is a corruption of the word Haymaca, by which name it was called in the language of the tribes inhabiting the countries bordering on the gulf of Florida. It was named by Columbus St. Iago, which is still the name of the capital of the island. It was first colonized by Spaniards in 1503. Jamaica remained subject to the crown of Spain until 1655, when it was captured by an English expedition under General Venables and

Admiral Penn. It has since remained in undisturbed possession of England.

16. *Cuba*, the largest of the Greater Antilles, belongs to the Spaniards. It extends from Cape Maysi on the east, to Cape St. Antonio on the west, in a curved line of 790 miles. It is about 127 miles wide in the broadest part, but its average breadth does not exceed 52 miles; and between the Havanna and the port of Batabano it is only 28 miles across. Its area is about 42,000 square miles, and if the adjacent islands, which belong to it, are taken into the estimate, it is about 43,000 square miles, or about 7000 square miles less than England without Wales.

Only about one-fourth of its surface, namely, the eastern districts, opposite the islands of Jamaica and Haiti, are mountainous, being traversed by numerous ridges running east and west. The highest ridge, called Sierra del Cobre, or the Copper Mountains, probably rises 7200 feet above the sea-level. The valleys between the mountain ridges are very fertile. From this mountain region a chain of hills, running in a north-western direction, traverses the island in all its length, but these hills grow lower as they proceed westward, and the most western districts of the island have only a slightly undulating surface, the hills rising with a gentle ascent to an elevation of 250 and 350 feet above the sea. Low and level tracts occur only on the southern coast. The largest level tract, which occupies the space between Batabano and Xagua, is a swamp which extends three or four miles inland. Extensive tracts of the undulating country are without trees, and make excellent pasture-ground.

Though the coast line is above 2000 miles in length, hardly one-third of it is accessible to vessels. The shores of the eastern mountainous parts between Cape de Cruz, on the southern, and Point Maternillo, on the northern coasts, are free from reefs and rocks. But westward from these two capes, numerous reefs, rocks, and small islands extend along the northern shores as far west as Cape Ycacos, east of the harbour of Matanzas, and along the southern coast to Point Casilda. On the north, however, there is an open sea between the keys, as these islets are called, and Cuba, which may be navigated by small vessels. From Cape Ycacos the coast is free from keys and rocks as far west as Bahia Honda, west of Havana. Between Bahia Honda and Cape St. Antonio the shores are again inaccessible on account of the shoals and rocks called Los Colorados. Between Cape St. Antonio and Cape Casilda, along the southern coast, shoals and keys are dispersed over the sea between Cuba and Isla de Pinos (Pine Island), from Llana Point to Cochinos Bay, so that only the small tracts of coast between Cape St. Antonio and Llana Point, and Cochinos Bay and Point Casilda, can be approached by vessels. Thus the central districts of Cuba, which are the most fertile, have no accessible coast in their neighbourhood. The

best-frequented harbours in the eastern districts and on the southern shores are Manzanillo, north-east of Cape de Cruz, whose entrance is in the narrow sea, called Boca Balandras, which lies between the reefs and Cape de Cruz, and Santiago de Cuba; and on the northern shores are Baracoa, Gibara, and Nuevitas. In the western districts and on the northern shores are the harbours of Matanzas, Havana, and Bahia Honda; and on the southern shores are Xagua and Trinidad. Cuba has no large rivers, and only a few of them are navigable for small boats as much as two or three miles inland.

Havana, the capital of the island, is situated on the northern coast, on the north-western shore of a bay which extends from south-south-east to north-north-west about $2\frac{1}{2}$ miles, its greatest width not exceeding one mile and a half. This bay, which forms the harbour of the town, communicates with the sea by a channel not much more than half a mile in length, and about 300 yards wide. The harbour is safe and excellent; but when the wind sets into the bay it is not very easy to get out of it. Both shores of the channel which leads to the harbour and the town are well fortified. The streets of Havana are narrow, crooked, and generally unpaved; but the town contains many good public buildings and private houses. There is a university, a seminary for Catholic priests, and some other institutions. The town, together with the surrounding suburbs, contains a population of 130,000 souls. Cigars and chocolate are manufactured to a great extent, and the commerce is very great. The climate is considered unhealthy. Guanabacao, or Guanavacoa, opposite to the Havana on the other side of the bay, contains about 10,000 inhabitants. Matanzas, farther to the east, and nearly opposite to the most southern extremity of the peninsula of Florida, is, next to the Havana, the most trading town of the island, and contains about 12,000 inhabitants. In the interior of the island are the towns of Santa Clara, with 9,000 inhabitants, Santo Espiritu, with 11,000, and Puerto Principe, with 30,000 inhabitants. The last-mentioned town is the seat of the supreme court of justice for all the Spanish colonies in America: it also carries on a considerable trade by means of the port of Nuevitas. On the southern coast are Trinidad de Cuba, which has 13,000 inhabitants, and an extensive trade; Manzanillo, with 6000 inhabitants and Santiago de Cuba, the ancient capital, with 26,000 inhabitants, and a very considerable commerce. The smaller towns on the southern coast are Batabano and Xagua; on the northern coast, Baracoa and Gibara; and in the interior, San Eugenio and Holguin.

The population of Cuba probably does not fall short of one million, of which amount the whites constitute nearly one-half, and the slaves one-third; the remainder are free people of colour.

The exports of Cuba have not been given in detail for a later date than 1833, nor for any year before 1826. It will suffice to state, as far as they have been given, the quantities for the first and the last of those years,

		1826.	1833.
Sugar . . .	Arrobas *	6,237,390	7,624,100
Rum . . .	Pipes	2,597	3,200
Molasses . . .	"	68,880	95,700
Coffee . . .	Arrobas	1,778,798	2,566,800
Wax . . .	"	22,919	41,500
Leaf Tobacco . . .	"	79,581	92,400
Cigars . . .	"	197,194	617,700
		1831.	
Cotton . . .	"	27,436	22,075
Cocoa . . .	"	4,817	3,970
Mahogany . . .	Varas †	16,966	14,695
Cedar . . .	"	9,430	10,679
Hides . . .	Number	16,893	28,917
Preserves . . .	Arrobas	3,043	2,105
Fruits . . .	Value in dollars	29,619	14,775
Honey . . .	Pipes	1,063	2,134
Mules and Horses . . .	Number	1,306	807
Other Produce . . .	Value in dollars	43,860	47,897

The total value of the imports and exports of merchandise in each year, from 1831 to 1833, stated in English money was,

	Imports.	Exports.
1831 . .	£3,239,306	£2,691,487
1832 . .	3,265,617	2,832,278
1833 . .	2,959,918	2,747,513

The countries from and to which the trade was carried on, were as follows :—

	1831.		1832.		1833.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
	£.	£.	£.	£.	£.	£.
Spain . . .	858,720	457,033	743,146	452,819	663,703	386,398
United States	977,147	816,998	733,319	647,596	929,481	913,934
Hanse Towns	354,649	396,013	387,251	438,432	196,325	313,356
France . . .	139,500	91,987	167,880	75,208	193,327	110,691
England . . .	305,403	326,608	262,085	437,851	338,577	189,787
Italy . . .	4,719	91,011	7,425	77,317	10,755	47,640
Netherlands .	22,194	59,877	61,331	101,310	42,417	55,681
Portugal . .	5,817	1,376	10,983	4,677	9,401	4,548
Russia . . .	—	99,777	—	223,433	10,971	207,335
Sweden and Denmark }	4,298	8,609	7,050	12,879	7,138	15,867
Turkey . . .	—	5,120	—	255	—	13,833

* The Arroba is equal to 25 lbs. 6 ounces avoirdupois.

† The Vara is equal to 33½ inches.

The imports consist principally of wine, spirits, beer, oil, salt provisions, dried fruits, spices, butter, flour, rice, potatoes, salt fish, cotton, linen, woollen and silk manufactures, hardware and lumber.

The ships that entered the port of Havana in the year 1833, and their tonnage, were as follows:—

	Ships.	Tons.
Spanish . . .	379	46,247
American . . .	509	91,624
Hanse Towns . . .	26	4,500
Danish . . .	10	1,729
French . . .	48	10,163
Netherlands . . .	8	1,477
English . . .	46	9,076
Portuguese . . .	5	494
Prussian . . .	1	290
Sardinian . . .	6	940
Swedish . . .	6	1,061
Hanoverian . . .	2	366
Mecklenburg . . .	1	159
Russian . . .	1	176
	<hr/> 1,048	<hr/> 168,302

THE BAHAMA ISLANDS, OR LUCAYOS.

17. These islands are dispersed along the eastern edge of the banks which divide the Bahama Sea from the Atlantic Ocean, and consist, as it is said, of about 500 rocks, islets, and islands. They are composed of coral rocks, covered with a light sandy soil, intermixed with shells: they are all low and level, with the exception of the island of Inagua, which contains some small hills. The islands are long and narrow, and most of them somewhat curved towards the Atlantic, where they border on an unfathomable sea. The soil being sterile, most of these islands are uninhabited: even the two large islands of Great Bahama and Abaco, which are situated north of Providence Channel, on the Lesser Bahama bank, have very few inhabitants. The climate is rather hot, the thermometer varying from 80° to 90° in summer, but it is not unpleasant, as the north-east trade-wind prevails in this season. From November to March the thermometer descends to 65° and even 60°, and strong gales blow from the north-west. Thunder-storms are frequent, and earthquakes are sometimes felt. The islands generally produce sufficient maize and ground provisions for the consumption of the inhabitants, and a small quantity of cotton for exportation. Many parts are covered with woods, containing several species of trees, of which mahogany, logwood, and fustic, supply articles of exportation. Cattle are reared in great numbers, and the woods contain wild hogs and

agoutis. Turtles abound on the shores, and are an article of export. Salt is collected in considerable quantities, especially on Turks' Island and the Caicos. San Salvador was the first land discovered by Columbus in 1492. Nassau, a town with about 6,000 inhabitants, is on the northern coast of New Providence, and is the principal harbour whence the produce of the island is exported. On Crooked Island is Pitstown, a small place.

The population of these islands in 1836 consisted of 19,365 persons, who were thus distributed :—

Islands or Districts.	Population.	
	Males.	Females.
New Providence and Keys	3,678	4,170
Andros Island, Green and Grassy Keys	110	72
Grand Bahama, and the Berry Islands	119	101
Great and Little Abaco, and Keys	501	347
Harbour Island	722	678
Eleuthera, Royal Island, and Keys	1,220	1,348
S. Salvador and Little Island	343	405
Watling's Island and Rum Key	255	235
Great and Little Exuma, and Keys	450	480
Rugged Island and Keys	59	99
Long Island	393	401
Crooked Island, Fortune Island, and Acklin's } Island }	382	422
Great and Little Inagua, Magaguana, French } and Attwood's Keys }	48	33
The Caicos	50	38
Turks' Island	1,111	1,095
Key Sal, and Anguilla . . . . .	..	..
Total	9,441	9,924

The number of slaves living on 1st August, 1834, in respect of whom compensation was paid, was 10,086, and the amount of compensation was 128,296*l.*, or 12*l.* 14*s.* 4*d.* per head. They were classed as follows :—

Prædial, attached	4,020
,, unattached	270
Non-prædial, including 2434 domestic servants	3,444
Children under six years	2,053
Aged and diseased	299
	<hr/>
	10,086

The climate of these islands is mild and equable, and is peculiarly favourable to health. The mortality is not greater than that of England.

The Bahamas produce but little exportable produce. The quantities of the principal articles exported in 1836 were—

Coffee . . .	64,271 lbs.
Cotton . . .	55,633 „
Fustic . . .	1,342 tons.
Logwood . . .	56 „
Mahogany . . .	1,386,192 feet.
Fruit . . .	2,500 <i>l.</i> value.
Salt . . .	861,345 bushels.

The total value of exports in that year was 88,694*l.*, and of imports 143,211*l.*

The government is administered by a governor, a legislative council of 12, and a house of assembly of 30 members. Nassau, in New Providence, is the seat of government.

One of the Bahama Islands was the first land discovered by Columbus on the 12th October, 1492. The islands were then densely populated by Indians, who were, not long after, sent off to work the mines of Peru and Mexico. New Providence was colonized by the English in 1629, but they were expelled by the Spaniards in 1641. The English returned in 1666, but were again driven away by the French and Spaniards in 1703. They were once more inhabited by English, who remained in possession until 1781, when the islands were taken by the Spaniards, but were restored to England at the peace of 1783, and have since remained unmolested.

18. Along the northern coast of the continent of South America there are several islands in the Caribbean sea, between 63° and 71° W. long. Most of them are rocky and high, but of small extent. The most considerable are Margarita and Curaçao.

The island of *Margarita* lies between 10° 56' and 11° 10' N. lat., and between 63° 56' and 64° 30' W. long., somewhat more than 20 miles from the coasts of Venezuela, to which republic it belongs. In the straits between the continent and the island are the two small islands of Coche and Cubagua, formerly noted for the pearl shells which were found on the banks in their neighbourhood: at present they are uninhabited, and only occasionally resorted to by fishermen. Vessels bound to the northern shores of South America usually pass between these islands and Margarita.

Margarita is about 40 miles long and 15 in its greatest width. Its area is about 400 square miles. It consists properly of two islands, connected by an isthmus, or rather natural causeway, several miles long, but only from 80 to 100 yards broad, and in some parts not more than 10 or 12 feet above the sea. Both parts of the island are rocky, and rise to a considerable elevation: the highest point is near the western extremity, where the mountains of Macanao, near Sandy Point, rise to more than 3000 feet above the sea level. The coasts are rocky and very steep, but contain several harbours. The harbour of Pampatar,

miles wide. The interior consists of a range of high hills, which in some points rise to 700 or 800 feet. The island is entirely covered with trees, among which the cocoa-nut palm is the most common. On its southern shores are several small harbours.

Along the western shores of the Gulf of Honduras the number of small wooded islands of coral rocks, called "keys," is greater than in any other part of the Caribbean Sea; all of them are well wooded, and cocoa-nut palms are the most common trees.

Between the Gulf of Honduras and the Island of Cuba are the *Caymans*, three small islands, which belong to the English. The largest, called the Grand Cayman, is 24 miles long, and, on an average, 3 miles broad. It is low, and covered with trees, which are chiefly cocoa-nut trees. The two others, Little Cayman and Cayman Brack, are small. The inhabitants raise the common grains and provisions of the West Indies in sufficient quantity, but are chiefly employed in catching turtle for the supply of Jamaica and other islands. On the western side of the Grand Cayman is a large village, called Georgetown; but these islands are generally thinly inhabited.

Towards the western extremity of Cuba, on its southern side, is the *Isla de Pinos*, belonging to the Spaniards, which is above 30 miles long from south to north, and nearly as much from east to west. It is a mass of high rocks, forming a bold shore, and rising towards the centre of the island to an elevation of more than 3000 feet. The cliffs which surround the island on the south side, and the shoals which inclose it on the north side, render it very difficult of access, even for small vessels. It is thinly inhabited, having only about 300 inhabitants on a surface of more than 900 square miles. The mountains are covered with fine forests, in which mahogany and dye-woods are cut.

The following works have been consulted for the description of the Columbian Archipelago:—

Waller's Voyage to the West Indies, for Tobago, Barbadoes, Martinique, Guadaloupe, the Saintes, Marie Galante, Deseada, Antigua, Tortola, Santa Cruz, St. Thomas, and Puerto Rico.

West India Sketch-Book: Deseada, Nevis, St. Christopher, Tortola, St. Thomas, Santa Cruz, Saba, St. Eustatius, Nevis, Antigua, Barbuda, Montserrat, Barbadoes, St. Vincent, St. Lucie, Martinique, Dominica, Guadaloupe.

West's Beschreibung von S. Croix: Santa Cruz, St. John, St. Thomas, Crabb Island.

Schomburgh on the Virgin Islands, in the London Geographical Journal.

Lavaysse's Description of Venezuela, Trinidad, Margarita, and Tobago.

Flinter's Account of the Present State of Puerto Rico.

Franklin's Present State of Haïti.

Mackenzie's Notes on Haïti.

Stewart's Present State of Jamaica.

Humboldt's Essay on Cuba. *Bryan Edwards's History of the West Indies.*

Pinkard's Notes on the West Indies.—Besides various books of travels in Central and South America, which furnished incidental notices.

The statistical facts are derived from official papers. As to many of the islands, which belong to foreign powers, no official information can be obtained.

The Bermudas, Summers or Sommers Islands, are generally considered as forming a part of the Columbian Archipelago, though they are situated far to the north-east, in the Atlantic Ocean, and about 650 miles from the Bahama Islands. They are 580 miles distant from Cape Hatteras, in North Carolina; they lie between $32^{\circ} 14'$ and $32^{\circ} 21' N.$ lat., and between $64^{\circ} 40'$ and $64^{\circ} 52' W.$ long. The islands lie in a line from south-west by west to north-east by east, and are based on the south-eastern edge of a bank, which stretches in the same direction about 23 miles in length, by 13 miles in width. The edge of this bank on the north, west, and south is composed of extensive coral reefs, which enclose the islands on these three sides with a semicircular belt, and, with the exception of one rock, called North Rock, are all under water, and very dangerous to navigators. On the outside of these reefs and the islands the sea is extremely deep; the water on the bank is very clear, and the view of the submarine rocks, as seen through it, is singularly beautiful. The number of islets and rocks is very great—some say they amount to 365. They are separated from each other by very narrow channels, and all together occupy a length not exceeding 13 miles, while the greatest breadth is hardly $1\frac{1}{2}$ mile: they consist of corals and shells, more or less consolidated by a calcareous cement, and are all low. The highest land, called Tibbs Hill, which is situated at the southern extremity of Bermuda Island, is only 180 feet above the sea-level. There are only five islands of any extent and inhabited: the rest are merely rocks. The inhabited islands are St. George's, St. David's, Bermuda or Long Island, Somerset, and Ireland. The two last-mentioned islands are situated at some distance from the edge and towards the middle of the bank. The climate is very mild, and like a perpetual spring, but the atmosphere is humid during southerly winds, which are the most prevalent. This moisture, however, maintains a fine green short turf which covers the ground, and the trees never lose their foliage. Tempests, thunderstorms, and hurricanes are frequent, especially in autumn. Snow seldom falls, and rains are not frequent, though they are very heavy. The climate is considered healthy on the whole. Almost all the vegetables

of England are cultivated. Bananas succeed very well, and there are groves of citron, orange, lime, and palm-trees. Coffee, sugar, tobacco, and indigo were formerly grown, but at present only a little indigo is raised. The surface of the islands is estimated at about 12,000 acres, of which only 456 are under cultivation, and 3070 acres are used as pasture. The remainder is still covered with trees, among which the cedar is predominant, and is well adapted for ship-building, on account of its durability. In 1832 ten small vessels of the aggregate burthen of 804 tons were built of this wood. The sea abounds with various kinds of fish and turtle, and many whales are taken on the south side of the islands. Live stock, salt meat, and flour are imported from the United States and other parts of North America. The islands are without fresh water, and rain collected in tanks is the only water that is used.

St. George's town is built on the south-east side of the island of the same name, on a gentle declivity which fronts the harbour: it contains about 500 houses, built of free-stone, and 2800 inhabitants. In Bermuda there are several small inlets which form harbours, and are surrounded by low hills; the most important is Hamilton Harbour. On Ireland Island there is a naval establishment, with a well-stored dock-yard, which has of late been strongly fortified. The population of the islands, in 1832, consisted of 4181 whites and 5217 slaves, free blacks, and coloured people. The exports were a small quantity of arrow-root and hides, white free-stone, which is exported to the West Indies, and colonial produce, previously brought from the West Indies. The imports consist of British manufactures, lumber, ships' stores, and provisions. The total value of imports in 1832 was 102,742*l.*, and of exports 13,784*l.* In 1832, 155 vessels, of 16,251 tonnage, entered the ports, and 163 vessels, of 16,441 tonnage, cleared out. The great majority of these vessels came from the British colonies in America and the United States.

These islands are said to have been discovered by Juan Bermudez, a Spaniard, in 1522, from whom their name is derived. In 1609, Sir George Sommers, on his voyage to Virginia, was shipwrecked on them. In 1612 they were settled by the English, and their population and cultivation rapidly increased, especially during the civil wars in England. The islands have never been taken from the English. About 1620 a provincial constitution was established, consisting of a governor, council, and legislative assembly. No measure which has passed in the assembly has the force of law till it is confirmed by the governor. The council is composed of eight members and a president, who are chosen by the governor. The House of Assembly consists of thirty-six members, who are returned by the nine parishes into which the islands are divided. They are chosen by persons possessed of landed property of the value of 40*l.* currency (30*l.* sterling) per annum, and the members must possess landed property worth 200*l.* currency per annum. All laws originate in the House of Assembly.

GENERAL VIEW OF NORTH AMERICA.

1. *Situation, Extent, Area, and Population.* 2. *Natural Divisions.*
3. *Chippewyan, or Rocky Mountains, south of the mountain knot of Sierra Verde (40° and 42° N. lat.), and the countries embosomed by them; Rio del Norte, Rio Colorado.* 4. *Chippewyan, or Rocky Mountains, north of the mountain knot of Sierra Verde.* 5. *Gulf of California, California Mountains, and the countries west of the Chippewyan Mountains, and south of 42° N. lat.* 6. *Columbia River, and the countries south of it.* 7. *Countries north of the Columbia River, to the Icy Sea and the Chippewyan Mountains.* 8. *The Great Plain, east of the Chippewyan Mountains.* 9. *Highest part of the Plain running west and east, between 45° and 49° N. lat. Canadian Seas and St. Lawrence River.* 10. *Southern portion of the Plain, Ozark Mountains, the Hilly Country, the Prairies, the Desert, the southern declivity of the Plain, the Peninsula of Florida.* 11. *The Appalachian Mountains, and the countries between them and the Atlantic.* 12. *The Acadian Mountains, and the countries between them and the Atlantic. Nova Scotia. Fundy Bay.* 13. *The northern part of the great Plain.* 14. *The Highlands of Labrador. Newfoundland. Hudson's Bay. The Arctic Highlands. The Barren Grounds.* 15. *The Arctic Archipelago. Baffin's Bay. Greenland. Discovery of the Arctic Archipelago.* 16. *Political Divisions of North America.*

1. **NORTH AMERICA** borders on the south on the Mexican Isthmus. The boundary-line between them is distinctly marked by nature, and is formed on the west by an extensive plain, and on the east by the wide valley of the Rio del Norte. The plain extends from the most northern recess of the Gulf of California eastward on both sides of the Rio Gila to 106° W. long., and between 32° and 34° N. lat.: this plain separates the mountain-ranges of the Mexican Isthmus from those of North America, and occupies between them a space about 150 miles wide. At the eastern extremity of the plain, and not far from the Rio del Norte, there is an isolated mountain-ridge, called Sierra del Florido. Between 106° W. long. and the Gulf of Mexico the wide valley of the Rio del Norte separates the southern extremities of the Chippewyan mountains from the lower ranges which form the northern border of the table-lands of Mexico. On the north, North America reaches to the Icy Sea: the most northern point which is known is *Cape Barrow* (71° 25' N. lat.), but a portion of the shore along the Icy Sea, between

108° and 106° W. long. has not yet been explored. On the east it is washed by the Atlantic, which forms many bays, among which the most remarkable are *Baffin's Bay*, *Hudson's Bay*, the *Gulf of St. Lawrence*, and the bays of *Fundy* and *Chesapeake*. On the west it is bounded by the Pacific Ocean, of which the Gulf of California is a part. The most northern part of the Pacific, called the Sea of *Kamtschatka*, is united to the Icy Sea by *Behring's Strait*.

The area of the continent of North America, according to a rough estimate, is about 5 millions of square miles. The area of the Arctic Archipelago is not ascertained. The population cannot be accurately known, but probably does not fall short of 20 millions.

2. A *Plain* extends over the whole continent from the south to the north, beginning south of 30° N. lat., and terminating on the north near 69° N. lat., at the mouth of the *Mackenzie River*. This plain is nowhere traversed by a continuous range of mountains. At its southern extremity, where it extends from the shores of the Atlantic to the base of the *Rocky Mountains*, between 103° and 104° W. long., it is 1200 miles wide. About 35° N. lat. and 84° W. long. the *Appalachian Mountains* commence, and run in a north-eastern direction along the eastern side of the plain, as far north as 45° N. lat. In 35° N. lat. the plain is more than 1000 miles, and in 45° N. lat., 1500 miles wide. The *Appalachian Mountains* may be considered as separated from the *Acadian Mountains* by the valley of the river *Hudson*, though the name *Appalachian* is generally extended to the mountains of *Maine* in the *United States*. The *Acadian* range forms the eastern border of the plain between 45° and 47° N. lat., and runs to the east of north. The plain is widest about 47° N. lat., extending from the neighbourhood of *Quebec*, in *Canada*, westward to the *Rocky Mountains*, a distance of more than 1800 miles. North of 47° N. lat. the plain is bounded by the *Highlands of Labrador*, the south-western border of which extends from *Quebec* in a west-north-west direction to the south-eastern angle of *James' Bay*. North of 52° N. lat., and as far north as 59°, the plain reaches to the very shores of *Hudson's Bay*. In 59° N. lat. it is 950 miles wide. North of this parallel begin the *Arctic Highlands*, the south-western border of which runs from *Hudson's Bay*, in a west-north-west direction, towards the mouth of the *Mackenzie River*: these highlands contract the plain as it proceeds farther northwards, so that at its most northern extremity it is hardly more than 30 miles wide.

The *Appalachian Mountains* occupy a space of about 100 miles in average width, and 800 miles in length, if we consider the range to terminate at the *Hudson River*. Between these mountains and the *Atlantic* is a plain, which, between 35° and 37° N. lat., is about 200 miles wide, but it grows narrower towards the north, so that at 40° N. it hardly exceeds 100 miles in width.

The *Acadian Mountains*, which may be considered as commencing

near 41° N. lat. and $73^{\circ} 30'$ W. long., run in an east by north direction to 46° N. lat., and then in a north-east direction to 49° N. lat., where they terminate in the peninsula of Gaspe, at the mouth of the St. Lawrence. They extend about 600 miles in length, with a width varying between 70 and 150 miles. Between them and the Atlantic extends a hilly country, varying in width from 50 to 80 miles, and comprehending the peninsula of Nova Scotia.

The highlands of *Labrador* occupy the whole of the peninsula of that name, and extend southward to a line drawn from Quebec to the most south-eastern corner of James' Bay.

The *Arctic Highlands* occupy the whole north-eastern portion of the continent, and are divided from the great plain by the above-mentioned line.

The western boundary of the great plain is formed by the *Chippewyan* or *Rocky Mountains*, which extend from 29° to 70° N. lat. in a north-north-west direction. Between 40° and 42° N. lat. there is a mountain-knot, the *Sierra Verde*, in which three mountain-ranges unite. These three ranges run southward, but still diverge widely from one another, so that at about 34° N. lat. the two outer ranges are 10 degrees or more than 500 miles distant from one another. Between these outer ranges are two wide valleys, drained by the Rio del Norte and Colorado. North of 42° N. lat. the Chippewyan Mountains, as far as they are known, consist of two ranges, running nearly parallel, and about 100 miles from one another.

The country west of the Chippewyan Mountains, including the peninsula of *California*, is traversed in its whole length, from south to north, by the *California Mountains*, which in many parts run along the sea, and are nowhere at a great distance from it. They extend from the most southern point of the peninsula of California, to the river *Columbia*, a distance exceeding 1500 miles: they vary in breadth, so far as they are known, between 30 and 100 miles. The country between them and the *Rocky Mountains* contains several ranges of high land and also extensive plains.

North of the river *Columbia*, another range of mountains skirts the *Pacific Ocean* at no great distance from it; and between these mountains and the Chippewyan range is a plain with a broken and hilly surface.

3. The *Chippewyan*, or *Rocky Mountains*, are the highest ground in North America: they are not connected with the mountains of the *Mexican Isthmus* (*Sierra Madre*), being separated from them by a plain about 150 miles wide in the narrowest place, and probably about 4000 feet above the sea level in the highest part. South of the mountain knot of the *Sierra Verde*, they constitute three mountain ranges, called, from east to west, the *Sierra de los Comanches*, *Sierra de Mogollon*, or *de los Mimbres*, and *Sierra de los Guacaros*.

The *Sierra de los Comanches* advances farther south than the other

ranges, its southern termination being situated in the great bend of the Rio del Norte, between 29° and 30° N. lat. Between this southern extremity and 35° N. lat., the sierra consists of two parallel ridges, which together do not occupy more than about 60 miles in width: they include a valley, which is drained by the Rio Puerco. Some of the summits are supposed to be always covered with snow. North of 35° N. lat., there is only one range, which takes the name of the Chippewyan, or Rocky Mountains. This range is considered to rest on a base from 2000 to 3000 feet above the level of the sea, above which it rises on an average to 5000 or 6000 feet; but several of the summits are always covered with snow. James' Peak, near 39° N. lat., is 8000 feet above the base, and 11,000 feet above the sea level, and other summits are still higher. North of 39° there is a peak which is supposed to be 15,000 feet above the sea-level. These mountains rise abruptly from the plain, and consist of ridges, knobs, and peaks, variously disposed, and containing within them many broad and fertile valleys. In some places there are considerable depressions in the mountain-mass.

The *Sierra de Mogollon*, or *de los Mimbres*, commences near 34° N. lat., and 109° W. long. It runs northward parallel to the Chippewyan Mountains, about 60 miles from them, and unites with them at the mountain-knot of the Sierra Verde: this range appears to be nearly equal in height to the Chippewyan Mountains. On the eastern side the slope is well defined, and no offsets branch out from it. Its width and western declivity are not known.

The *Sierra de los Guacaros* commences in the south about 6° of long. west of the Sierra Mogollon, in 34° N. lat.: its extent, height, and width are not known, but it is supposed that it joins the Chippewyan Mountains at the mountain-knot of the Sierra Verde.

The countries contained within these three ranges are very imperfectly known. The valley of the Rio Puerco, lying between the two ridges of the Sierra de los Comanches, has never been visited by Europeans, being in possession of a savage tribe, called the Comanches, who prevent foreigners from entering it.

The country between the Chippewyan Mountains and the Sierra Mogollon, or the vale of the Rio del Grande, is a part of New Mexico. It extends from 34° to 40° N. lat.: its northern part, as far south as 38° N. lat., is very narrow. Between 38° and 35° N. lat. the vale is from 10 to 40 miles wide: it is fertile in grain, and produces good tobacco; cattle and horses are plentiful, and are exported. The climate, however, is very severe: the winters begin early, and the rivers are annually frozen for two or three months, which is owing to the great elevation of the valley above the sea level. The southern part of the vale, between $35^{\circ} 30'$ and 34° N. lat., is a desert, being covered in its whole extent by arid hills, which advance close to the river on both sides: it is appropriately called the *Deserto de Muerte*, and is uninhabited.

The *Rio del Norte*, which traverses the valley, rises in the mountain knot of the Sierra Verde, and flows southward. Within the fertile part of the valley, it is a deep and moderately rapid river, and may be navigated: its course through the desert is more rapid, and where it issues from the valley, the water is abundantly used for irrigating the contiguous country; in its course farther south, it loses much of its water, sweeps by a great bend round the southern extremity of the Sierra de los Comanches, and afterwards runs south-east to the Gulf of Mexico. It is navigable for river barges from the Presidio del Norte, and for schooners from the town of Matamoros to its mouth, but it has a bar at the mouth with only 7 feet of water: its whole course is between 1300 and 1400 miles.

The extensive country which fills up the space between the Sierra de Mogollon and the Sierra de los Guacaros may be considered as entirely unknown. More than seventy years ago, it was visited by some monks, who reported that they found several aboriginal tribes, who cultivated the ground, lived in large buildings, and were considerably advanced in civilization. The *Rio Colorado*, which drains this country, rises south of the mountain-knot of the Sierra Verde, and is supposed to run in a south-western direction: only the lower part of its course, and to a distance of less than 100 miles from its mouth, has lately been visited. In this part of its course the river flows through an arid plain, and is joined by the Rio Gila, which rises in the southern extremity of the Sierra de Mogollon, and runs westward about 500 miles, through the arid plain which constitutes the boundary between the Mexican Isthmus and North America. It is a very shallow river, and joins the Colorado about 50 miles above its mouth. The Colorado itself is so shallow, that even near its mouth it can only be navigated by small boats.

4. That part of the *Chippewyan*, or *Rocky Mountains*, which is contiguous to the mountain-knot of the Sierra Verde, on the north, is the highest part of the range: several elevated peaks, rising far above the snow-line, lie between 42° and 53° N. lat. Mount Hooker, 15,700, and Mount Brown, 15,900 feet, above the sea, lie between 52° and 53° N. lat., near the source of the river Saskatchewan. Other summits probably attain nearly the same, if not a higher elevation: but still farther north, and especially north of 55° , the range grows lower, not exceeding 4000 feet in height, and towards the northern extremity it lowers to 2000 feet and less. The eastern declivity of the range is well defined, rising abruptly, and with a rather steep ascent, from the plain, except where it is contiguous to the mountain-knot of the Sierra Verde. Between 42° and 43° N. lat., a range, called the Bighorn Mountains, branches off from it in an east by north direction, the principal range continuing west by north. Two offsets inclose the valley of the Bighorn River, an affluent of the Yellowstone River, one of the principal upper branches of the Missouri, and are connected with the Black Hills, which are about 100 miles

from the principal range, and stretch in a north-eastern direction from the south fork of the Nebraska, or Platte River, to the great bend of the Missouri. They divide the rivers which fall into the Yellowstone River from those which join the Missouri south of its great bend. The hilly country, between the Black Mountains, and the principal range in which all the upper branches of the Missouri river originate, must attain a great elevation above the sea-level: sometimes, even in the month of August, it freezes in the night.

On the western side, the Chippewyan Mountains do not subside into a plain, but are succeeded by longitudinal valleys, which lie between them and another range of mountains, apparently not quite so high as the eastern range. The distance between both ranges may vary from 60 to 120 miles. All the rivers which originate on the west side of the Chippewyan Mountains flow for a great distance, either south or north, along the base of the range; and some of them find a passage through the eastern range into the great plain. This is particularly the case with the rivers north of 55° N. lat., as the Peace River, the Turnagain River or southern branch of the Mackenzie River, and the Peel River. The valleys in which these rivers flow must have a great elevation above the level of the sea, as the rivers form many rapids and cataracts where they pass through the mountains.

Towards their northern extremity, where the mountains are hardly more than 2000 feet high, the range is said to consist of 14 or 15 ridges separated by narrow valleys, which all together occupy a breadth of about 200 miles, and skirt the Icy Sea at a short distance, varying between 12 and 30 miles.

The Chippewyan Mountains, to the north of 42° N. lat., do not present a range of uniform elevation, but rather consist of groups divided from each other by considerable depressions, and occasionally by elevated peaks: the upper parts of the mountains are bleak and bare, but many of the inferior ridges are scantily clothed with scrub pines, oaks, and cedar; various parts of the mountains contain evident marks of volcanic action. Some of the interior valleys are strewn with scoria and broken stones which are of volcanic origin: vestiges of extinct craters are visible in some of the elevated heights. In some parts rock-salt occurs; and in one place there is a plain about 10 miles in circumference, the surface of which is incrustated with salt as white as snow, to the depth of a foot and more.

5. The *Gulf of California* extends between the northern part of the Mexican Isthmus and the peninsula of California, beginning on the south, between the Cape of St. Lucas in California, and the Port of Mazatlan on the Mexican Isthmus, and extending hence in a north-west direction to the mouth of the Rio Colorado. Its length is above 700 miles, and its breadth varies from 150 to 40 miles. Many rocky islands skirt the shores of California: the largest of these islands are St. Cata-

lina, and Isla de Carmin; on the latter much salt is collected. On the eastern shore is the large island of Tiburon, which is divided from the mainland by a narrow arm of the sea. This gulf was noted for the great quantity of pearls collected there in the beginning of the last century, but the supply is now very much diminished: all the pearl-beds occur along the coast of California, and none on that of Sonora, and even on the former none are met with on the low shores north of $28^{\circ} 30'$ N. lat.

The *Californian Mountains* begin on the south at Cape St. Lucas, and occupy the whole of the peninsula of that name; the surface of which consists of one continuous mass of primitive rock, furrowed by numerous ravines, and a few narrow valleys, with here and there a small level spot on the shores of the gulf. High rocky masses everywhere advance close to the shores of the Pacific. All these rocks are entirely destitute of vegetation, which is only found in the ravines, and on the level spots near the gulf. The highest portion of the peninsula appears to be the mountain called *La Giganta* (the Giantess), which is about 26° N. lat., and is supposed to rise about 5000 feet above the sea. Farther north, about 28° N. lat., are three high summits, one of which is an extinct volcano: *La Giganta* seems also to have been a volcano.

The scantiness of the vegetation in this rocky region is owing to the scarcity of rain. The northern part of the peninsula is never refreshed by a shower; and even south of 26° N. lat., only a few showers occur in the course of the year, but at periodical intervals of five or six years this part of the country has abundant rains in summer. The heat is very great, which may be inferred from the circumstance of the date ripening in the valleys. At the mouth of the Rio Colorado, Dr. Coulter observed the thermometer to rise to 140° Fahr.,—an extraordinary and very remarkable phenomenon. The cultivable ground does not occupy one-thousandth part of the surface, and is limited to the valleys and level spots. The Indian corn and other grains which are grown are not sufficient for the consumption of the scanty population; but the fruits are of a superior quality, and furnish an article of export.

North of 33° N. lat., the *California Mountains* are more broken into valleys, and the valleys are wider. About 34° N. lat. rises a high summit, called *Mount St. Bernardino*, which is always covered with snow. At this point the range divides into two chains. The western chain continues to skirt the shores of the Pacific; in some places keeping close to the sea, and in others leaving a level tract of some extent, covered with sandy hills along the beach. This portion of the range is divided into several ridges, which run in the direction of the whole rocky mass, and thus form a number of longitudinal valleys. This range terminates about $37^{\circ} 40'$ N. lat., on the shores of the bay of St. Francisco, in the tongue of land which divides the bay from the sea. No part of this chain appears to rise to any considerable elevation.

The other, or *eastern* chain, runs in a direction nearly parallel to the western, and from 40 to 60 miles from it. The wide valley between the two chains contains the Tule Lakes. The eastern chain rises to a much greater height than the western, especially due east of the lakes, where for a considerable extent it seems to be above the snow line. North of 38° N. lat., the California Mountains run due north, and at a considerable distance from the shores of the Pacific; certainly more than 100 miles. North of 40° N. lat., their position is not known; but there are grounds for supposing that they continue in a northern direction, and are the same chain which terminates near 46° N. lat., on the banks of the Columbia River, about 122° W. long. Near their most northern extremity is Mount Hood, which is always covered with snow, and rises to near 16,000 feet above the sea-level.

The Tule Lakes are two in number, and extend, in the direction of the coast, from south-east to north-west, for about 200 miles. At their southern extremity they receive a river which rises on the northern declivity of Mount Bernardino, and runs to the north-west, and numerous small rivers from both the mountain ranges. These lakes are said to be fordable, in the dry season, in several places; and, during a considerable portion of the year, very little, if any, water runs into the Bay of St. Francisco, which receives the river that issues from their north-western extremity. This singular circumstance gives to these lakes the characteristic of the lakes of Steppes, whilst their situation between two mountain ranges, of which one rises to a great elevation, would lead us to assign to them the character of Alpine lakes. Immediately after the rainy season (in February), and during the melting of the snow on the high range, they discharge a considerable quantity of water.

The Bay of *St. Francisco* measures from south-east to north-west about 50 miles, and is perhaps 20 miles wide on an average. It contains many good harbours, and there are considerable tracts of cultivable land along the shores. Besides the outlet of the Tule Lakes, it receives the waters of three considerable rivers, the Rio San Joaquin, Rio Jesus Maria, and Rio Sacramento, of which the last is the largest: the upper courses of these rivers are unknown. The country between 32° and 39° N. lat., on the west of the high range of the California Mountains, is called Upper California. Though the mountains which cover its surface are not quite so bare of vegetation as those of Lower California, yet the portion which is capable of cultivation is very small in comparison with the extent of the country. With the exception of narrow valleys, which occur in the mountains between the sea and the Tule Lakes, there is no cultivable land, except in the country which surrounds the Bay of San Francisco, and along the eastern margin of the Tule Lakes.

In Upper California the rainy season is in winter. The rains com-

mence in the month of November, and continue to the month of February. In the remainder of the year there is no rain, except some slight showers in a few places. In summer the heat is very great. Wheat, Indian corn, and fruits thrive very well, but the wheat is frequently destroyed by locusts. Cattle and sheep are very numerous.

East of the California Mountains, and between them and the Sierra de los Guacaros, extends a level plain, which, towards the southern extremity, is about 100 miles across, but farther north it becomes 200 miles wide: its length from south to north is said to be 700 miles. The plain is imperfectly known, but it is nearly without vegetation. A considerable river drains it, but towards the northern extremity there are two salt lakes of great extent, of which the southern is called Tegujo, and the northern Timpanogos; the latter has lately been partially explored by an expedition under the direction of Captain Bonneville, and is now called Bonneville Lake.

6. Near the parallel of 42° N. lat., a mountain range runs east and west, connecting the California Mountains with the mountain-knob of the Sierra Verde. This range constitutes the southern limit of the basin of the *Columbia River*, whose most northern branches originate near 54° N. lat.: so that all the waters which descend from the western declivity of the Chippewyan Mountains, between 42° and 54° , are poured into this river. The principal branch of the *Columbia River* is near 50° N. lat., and runs between the two ranges of the Chippewyan Mountains, north-north-west, to the base of Mount Brown, where it meets another river which runs in the same valley southward. The united river breaks through the mountains in a southern course, forming many rapids and cataracts. It continues in this direction as far south as the parallel of 48° , where it meets *Clark River*, one of its affluents which also runs in a longitudinal valley to the north-west: near its mouth, *Clark River* has falls of considerable height: a short distance below the junction of both rivers, there are also falls in which the river descends 21 feet perpendicularly. The rapid current continues far down to the mouth of the *Oakinagan River*: after the junction of the last-mentioned stream, the river turns to the south, and its course is long and impeded by falls and cataracts. Near 46° N. lat., the river is joined from the east by the *Snake or Lewis River*, the largest of its affluents, and soon afterwards turns to the west, in which general direction it flows to the Pacific. Below the junction with the *Lewis River*, the river is navigable except for 80 miles opposite the termination of the California Mountains. In this place the river is narrowed by rocks and frequently compressed into a channel only 50 feet wide. Both at the upper and lower ends of these rapids and cataracts occur, 20 feet high, and between them are whirlpools, and every kind of obstruction to navigation. From the foot of these rapids to the sea, the river is navigable for large boats; and vessels of 300 tons burden may ascend.

it as far as Vancouver's Point, which is more than 100 miles from the sea, and up to which the tide is perceptible. Snake or Lewis River draws its most remote waters from the mountain knot of the Sierra Verde, and the high mountains contiguous to it on the north. The upper part of its course, which is nearly due west, is frequently interrupted by considerable falls and rapids. Where it turns northward, is the Cauldron Lynn, a terrible vortex, for 40 miles below which the river foams and roars through a deep and narrow channel, not more than 20 or 30 yards wide, which it has worn in the solid rock. In this part of the river there are numerous rapids, and falls occasionally from 10 to 30 feet high. In the lower part of its course, rapids are less frequent, but even then the navigation is sometimes interrupted. All the affluents of the Columbia River are remarkable for the great rapidity of their current; and in this respect exhibit a striking contrast with the currents of the rivers that traverse the great plain, which, though rapid, are navigable even to the eastern base of the Chippewyan Mountains. At its mouth, Snake River is nearly 500, and Columbia River 960, yards wide. The course of the Snake River is nearly 1000 miles long, measured along its windings, and that of the Columbia not less than 1500 miles.

The coast between the Bay of St. Francisco and the mouth of the Columbia River is high, rocky, and mountainous, as the western offsets of the Californian Mountains advance close to the sea. But though the soil is not fertile, the hills are covered with dense forests of hemlock, spruce, white and red cedar, oaks, and other trees. A lateral range of the Californian Mountains divides this tract from the valley of the river *Wallamot*, an affluent of the Columbia River, which is called the *Columbian Valley*, and extends southward to a great distance between two high ranges, and towards its northern extremity is 60 miles wide. So far as it is known, this is the most fertile portion of the basin of the Columbia River, being covered in its natural state with fine grass interspersed with forests. The trees attain an astonishing height and thickness, especially the cedar.

No timber trees occur to the east of the Californian Mountains. The arid soil of that region does not receive rain sufficient for the growth of large trees, the clouds which proceed from the Pacific Ocean being interrupted by that elevated mountain range. The surface of the country between it and the Chippewyan Mountains consists of several ranges of high hills, with extensive plains between them. The highest part of these ranges is clothed with a scrub growth of pines, cedars, aspens, and cotton wood, but the lower declivities are bare. The extensive plains, some of which are 100 miles long and nearly as wide, are dreary deserts of sand and gravel, here and there covered with a scanty herbage, insufficient for the pasture of animals. It is only near the mountains, and in the valleys of the Chippewyan range, that the soil

is more fertile, and grass and plants abundant. The plains are entirely destitute of trees.

Along the coast (of the climate of the interior we know very little), the seasons rather resemble those of Western Europe than of North America: west of the Chippewyan Mountains very little snow falls, and it hardly lies more than two days on the ground, except on the mountains. The winters are rather rainy than cold. For five months, from the middle of October to the middle of March, the rains are almost incessant, and accompanied with tremendous thunder and lightning. The prevalent winds at this season are from the south and south-east, which usually bring rain: those between the north and the south-west bring fair weather and a clear sky. From the middle of March to the middle of October only a few showers fall, but heavy dews and fogs are common in the morning. No agricultural settlements have been formed in this country, and it is still in possession of the native tribes, among which the *SNAKE INDIANS*, or *Shoshonees*, are the most powerful and numerous: they live chiefly on the produce of the chase and by fishing, but also keep horses and dogs. The wild animals, which are numerous in these tracts, are the stag, fallow-deer, grizzly and black bear, antelope, ahsahta or bighorn, beaver, sea and river otter, musk-rat, fox, wolf, and puma, but the last is extremely rare: fish is very abundant in the rivers, especially the *uthecan* (a kind of smelt), sturgeon, and salmon.

7. North of the Columbia River, the interior of this country is only imperfectly known as far as 60° N. lat.; and north of that parallel it is quite unknown. A range of high mountains begins near the northern banks of the Columbia River, nearly opposite the northern termination of the California Mountains. It soon rises into lofty summits, among which Mount St. Helens is 14,400 feet high, and others farther north are probably not lower. This range seems to run along the coast, and only to be interrupted by the narrow vales through which the rivers pass in their course to the Pacific. Where this range has been seen, a great portion of it is always covered with perpetual snow. The two high mountain-masses, Mount Fairweather (59° N. lat.), which rises to nearly 15,000 feet, and Mount Elias, the highest mountain in North America (near 60° N. lat.), which attains an elevation of more than 17,500 feet above the sea, are probably connected with this range; but we are not acquainted with that part of it which lies between 57° and 59° N. lat.

The country between this maritime range and the Chippewyan chain does not appear to contain any high range, though several ridges of hills traverse it from south to north. The surface is partly covered with lofty trees, which indicate a fertile soil. Other tracts of considerable extent are swampy plains. Lakes, which are not numerous south of the Columbia River, and when they occur are generally small, are much more common here; and, according to the information of the Indians, several of them

of great extent. On the same authority it would seem that one-fourth of the whole surface is covered with water. Many of the trees, especially the cedar and elder, attain a great height and size, particularly on the western declivity of the high range which runs along the coast.

This intermediate region contains the upper part of the Peace River, and the Turnagain or southern branch of the Mackenzie River; both of which pass through the Chippewyan Range, after skirting its western base, and then descend into the great plain. The most considerable, whose course lies in this region, is the Fraser River, which originates in the Chippewyan Mountains, near the northern source of the Columbia River, about 53° N. lat. and at first runs to the north-west, with a very rapid current. After passing through a ridge of considerable elevation it turns southwards, and continues in that direction nearly to its mouth, after which it declines to the west, and enters the northern extremity of the Juan de Fuca Sound, on the coast of the Pacific. Its course is very rapid, and it has cataracts at six places, which are quite impassable for boats. Its course is about 600 miles.

The coast north of the mouth of the Columbia River is rocky, rugged, and high. It generally rises from 300 to 700 feet, perpendicularly, on the very beach, and offers convenient landing-places only in the inner recesses of the numerous inlets, and at the embouchures of the rivers. Between 47° and 57° N. lat., the coast is indented by deep and narrow inlets, which advance far into the rocky masses, and sometimes to a distance of 60 or 80 miles. In front of these inlets there are scattered numerous rocks and islands, some of which are of great extent. The most considerable of these islands is *Quadra and Vancouver Island*, which has an area of more than 30,000 square miles, or more than half the area of England and Wales: it is rocky and elevated, but no part of it attains a great height. It is separated from the mainland by the Sound of Juan de Fuca, and by a long and narrow strait. Farther north is *Queen Charlotte Island*, with a surface of nearly 5000 square miles, and then follows the Archipelago of *King George, the Third*, which, besides many smaller islands, contains *Prince of Wales Island*, in which there is a fine and spacious harbour, named Port Bucarelli, *Alaska Island*, and *Admiralty Island*.

The most north-western extremity of America is north of 60° N. lat.; the coast of this part also is much indented, but the inlets are wide enough to be called bays, and they are separated from one another by promontories which run far into the sea, and are generally of considerable width. The most remarkable of these promontories is the peninsula of *Alaska*, which juts out in a south-western direction from the continent, and is more than 400 miles long, with an average breadth of 15 miles. It is formed by steep rocks, which in several parts rise to a great elevation. Opposite its most western point begins a series of

islands which stretch, in the direction of the peninsula, nearly across the Pacific Ocean, to the shores of the peninsula of Kamtchatka. These islands, which are comprehended under the general name of Aleutian, as well as the peninsula, exhibit numerous traces of volcanic agency, and several volcanoes are still active. At the point where the peninsula of Alashka is connected with the continent, lies the large island of *Kodiak*, and opposite to it on the continent is *Cook's Inlet*, which penetrates nearly 200 miles into the rocky mass. In the sea of Kamtchatka, which is separated from the main body of the Pacific Ocean by the line of the Aleutian Islands, are two wide bays, *British* or *Kamushatska Bay*, north of the peninsula of Alashka, and *Northern Sound*. The last-mentioned bay is separated from *Kotzebue Sound*, which lies farther north, and from the *Icy Sea*, by a wide promontory, the most western extremity of which, *Cape Prince of Wales*, is only 50 miles distant from *Cape Tshookotskoi*, the most north-eastern extremity of Asia. The strait which here separates both continents is called *Behring's Strait*.

At *Cape Prince of Wales* terminates the high and rocky coast which begins at *Cape Lucas*, in California, and is chiefly composed of primitive or volcanic rocks. The country round *Kotzebue Sound* is covered by rounded hills, formed of limestone or clay, and rising from 600 to 1000 feet above the sea. They are interspersed with numerous small lakes. But a short distance north of *Cape Lisburne* even these hills disappear, and with them the inlets and the bays of the coasts. A low sandy beach extends to *Point Barrow*, and from *Point Barrow* along the northern coast of America, as far east as the mouth of the *Mackenzie River*. The country contiguous to this low coast is also low, sandy, and swampy, and no hills are visible, except a few sand-hills near the beach. But between 145° W. long., and the mouth of the *River Mackenzie*, a nearly continuous range of hills occurs at a distance of 20 to 30 miles from the sea. They probably rise to an elevation of 300 to 500 feet above the sea-level, and constitute the northern extremity of the *Chippewyan Mountains*.

The coast of North America along the *Arctic Ocean* has only been discovered in the present century. Captain Cook, in his last voyage, advanced as far as *Icy Cape*, and it was supposed that the great masses of ice, which even at the end of the summer season are met with in this sea, rendered it impossible to advance farther. But, in 1817, *Kotzebue*, a Russian navigator, succeeded in advancing 70 miles farther north, to *Point Belcher*. The discovery of the coast was carried much farther by the English government, who in 1826 sent two expeditions, one of which, under Captain *Beechey*, was to sail along the western coast as far north as possible, and the other, under Captain *Franklin*, was to advance from the mouth of the *River Mackenzie* westward. *Beechey* carried his discovery to *Point Barrow*, which is about 70 miles farther

Franklin had better success, and explored the coast from the mouth of the Mackenzie River westward to Cape Beechey, a distance of more than 330 miles. The coast between Cape Barrow and Cape Beechey, about 146 miles, was now the only part that remained undiscovered. In 1837, Messrs. Dease and Simpson, of the Hudson's Bay Company, succeeded in surveying even this part, and thus the discovery of the coast of the Arctic Sea west of the mouth of the Mackenzie River was completed.

The climate of a country which extends from 46° to 71° N. lat., and which in the interior rises to a considerable elevation, must, of course, vary greatly. The rains seem to increase as we advance farther north, and also the cold; but the latter less rapidly. Here, also, it is observed that the western coasts of North America have more rain, but a higher temperature, than the coasts of the Atlantic. At *New Arkhangelsk* (57° N. lat.) the mean elevation of the thermometer during the winter approaches zero of Fahrenheit, and in the coldest days it rarely sinks to -6° ; a degree of cold less severe than the extreme which is experienced in the New England States. Though the creeks and rivers are covered with ice in winter, the bay on which this place is built, and which is called Norfolk Sound, is always open to vessels. Strong gales of wind are occasionally experienced, but they never last long. Heavy showers of rain fall all through the year, but very little snow; the latter occurs from December to about March or April. There are many hot days in summer, but in general the heat is tempered by the constant moisture of the air. It is remarkable that along the whole western coast of North America, north of Cape Mendocino, thunder-storms rarely occur in summer, but are very frequent in December and January. In this season the air is so charged with electricity, that for many hours together, in the darkest nights, the bluish-green electrical light, which is called St. Helen's Fire, may be seen on the bayonets of the soldiers. Trees of great size occur as far north as the parallel of 60° , especially the spruce-fir and the balm-poplar. The most common animals are whales, seals, sea and river otters, black and brown bears, beavers, and other fur-bearing animals.

8. The *Great Plain* of North America, which extends along the eastern base of the Chippewyan Mountains from 29° to 69° North lat., consists of three inclined plains, of which the southern inclines towards the south, and terminates on the Gulf of Mexico; the middle plain towards the east-north-east, and terminates on the shores of the Hudson's Bay; and the northern inclines towards the north, terminating on the Arctic Ocean. The southern plain is larger than the two others taken together.

The dividing line between the southern and middle plain lies between 44° and 47° N. lat. At its western extremity, near the Chippewyan Mountains, it is formed by the high and hilly country which lies between

the two great upper branches of the Missouri River, the Yellow-stone and the proper Missouri River, and on both sides of them. The country between the proper Missouri and the Saskatchewan River is probably as high as that between the two forks of the Missouri, or about 5000 feet above the sea-level. The latter country, however, stretches out in wide plains, which are covered with grass, and without trees or bushes. This plain extends eastward from the base of the Chippewyan Mountains, between 48° and 50° N. lat., to about 99° W. long.; but it probably is not more than 2000 feet above the level of the sea at its eastern extremity, where it terminates between 99° and 98° W. long., with a broad-backed swell, named *Côteau des Prairies*. This high ground is probably very little elevated above the plain to the west, but it rises more than 1000 feet above the country to the east. Like the plain, it is without trees, and extends in a south-south-east and a north-north-west direction, between 45° and 50° N. lat. East of the *Côteau des Prairies* occurs the deepest depression along the boundary-line between the two plains. This depression is a valley less than 900 feet above the level of the sea, in which two rivers rise about two miles from one another—the *Red River*, of Lake Winnipeg, and the *St. Peter's River*, an affluent of the Mississippi. Between the two small lakes (Travers and the Big-stone Lake), in which the rivers originate, lies a flat country, which is sometimes inundated, so that boats may pass from one river to the other. On the east side of the valley the country rises with a gentle ascent to an elevation of 500 or 600 feet, which ascent is called the Pine Ridge, and it then extends in a plain, with an undulating surface, and mostly covered with swamps. These plains contain numerous small lakes; and in one of them, Itasca Lake, the Mississippi River originates at an elevation of about 1500 feet above the sea-level. This country extends to the very shores of Lake Superior, increasing very little in height, but its surface becomes more rocky and broken as it approaches the shores of the lake.

From the Chippewyan Mountains to Lake Superior the southern and middle plains are contiguous, but farther east they are separated from one another by a vast depression, which contains the *Canadian Sea* and the basin of the *St. Lawrence River*. This depression begins at the western extremity of Lake Superior, and its western portion, between 92° and 85° W. long., is entirely occupied by that lake, which on all sides, except towards its eastern extremity, is inclosed by a rocky shore, generally rising with a steep ascent, and frequently to the height of 200 or 300 feet. From the northern shores of Lake Superior the northern edge of this deep depression runs due east, until it unites with the Highlands of Labrador, west of St. John's Lake. But no mountains, or even hills of any considerable elevation, occur along this line, which may be described as merely the highest ground between the basin of the *St. Lawrence River* and the southern extremity of Hudson's Bay. Its ele-

vation probably nowhere exceeds 2000 feet above the sea-level, and the surface declines from it both towards the north and south in gentle and long declivities, and sometimes with rather steep terraces. The southern border of the depression begins near 88° W. long. on the shores of Lake Superior, and runs southwards along, and close to, the western shores of Lake Michigan, to the most southern corner of that lake, whence it extends eastward, across the peninsula of Michigan, to the most southern point of Lake Erie. It then follows the southern shores of that lake, at a short distance from it, nearly as far as 79° W. long., whence it advances due east between 42° and 43° N. lat. to 76° W. long., where it turns to the north-east: it continues in that direction until it meets, near 71° W. long., the Acadian mountains, which in this part constitute the eastern boundary of the Great Plain. Along this line the country, which constitutes the upper edge of the depression, varies between 130 and 400 feet in elevation above the nearest lakes, and not a trace of a hill occurs on the dividing ground, except east of Lake Erie, where the country rises into hills of moderate height. The highest hills occur where the northern extremity of the Appalachian mountains enters the basin west of Lake Champlain.

The country inclosed by these lines must be considered as an extensive basin, which constitutes one of the most striking natural features of North America. Though the most western angle is entirely occupied by the waters of Lake Superior, the basin suddenly widens to eight degrees of latitude, a width which it preserves for the greatest part of its extent. The eastern border is formed by the Acadian mountains and the highlands of Labrador.

Almost the whole surface of this basin descends towards the south, and near its southern border, in the deepest depression of the region, it contains the largest fresh-water lakes on the globe, which taken together occupy a surface somewhat larger than that of Great Britain. According to a rough calculation,

Lake Superior contains	.	.	.	43,000 square miles.
Lake Huron	.	.	.	16,500
Lake Michigan	.	.	.	13,500
Lake Erie	.	.	.	11,000
Lake Ontario	.	.	.	12,600

96,600 square miles.

These *Lakes* lie in four terraces, differing in elevation, of which Lake Superior occupies the highest, its surface being 627 feet above the sea-level. The second terrace contains Lakes Michigan and Huron, which are 595 feet above the sea-level. Lake Erie is on a terrace only 30 feet lower, but Lake Ontario is 331 feet lower than Lake Erie, its surface being only 234 feet above the sea. These lakes are connected by narrow channels, but it is only the channel between Lake Huron and

Lake Erie that is navigable, as the bed of this channel descends only 30 feet in 90 miles. The bed of the channel which unites Lake Superior and Lake Huron descends 32 feet in 40 miles, and about the middle of its course forms the Falls of St. Mary, a series of rapids occupying about two miles in length, by which the river descends $22\frac{1}{2}$ feet of perpendicular height. Lake Erie is united to Ontario by the Niagara river, which is 33 miles long, and about the middle of its course forms the great Falls of Niagara, by which the river descends 162 feet in a perpendicular fall. These lakes, with the exception of Lake Erie, are very deep. Lake Superior is 792 feet deep, so that its bottom is about 170 feet below the surface of the Atlantic. The depth of Lake Michigan is not known, but it is considered to be as deep as Superior. Lake Huron is in many parts 450 feet deep, and Lake Ontario, in the centre, is about 600 feet in depth. Though numerous rivers empty themselves into these lakes, they have all a comparatively short course, and bring down little water, except immediately after the melting of the snow in spring, when the lakes rise about three feet above the usual level. The only outlet of these lakes is the river St. Lawrence, which brings down to the ocean a much greater volume of water than any other river on the globe, with the exception only of the river Amazon in South America; but it derives a considerable supply of water from other sources besides the great lakes.

The *St. Lawrence* river has not a very long course. If Lake Superior is considered as its source, and if its mouth is fixed at the western extremity of the island of Anticosti, its course falls considerably short of 2000 miles.

	Miles.
Lake Superior extends in length along a line drawn through its centre	360
The strait of St. Mary, uniting Lake Superior to Lake Huron, is in length	40
Lake Huron, measured along a curved line in its middle	240
St. Clair river, carrying the waters of Lake Huron to Lake St. Clair	30
Lake St. Clair	30
Detroit river, uniting Lake St. Clair to Lake Erie	29
Lake Erie measures in length	265
River Niagara, running between Lake Erie and Lake Ontario	33
Lake Ontario	172
The St. Lawrence river, from its efflux from Lake Ontario to the western extremity of the island of Anticosti, flows	692
	<hr/> 1891

This river is distinguished by the great width of its lower course. Below Montreal, which is 580 miles from the island of Anticosti, the width of the river varies between 3 and 4 miles, though it is only 1314 yards wide at Quebec. Lower down it expands considerably, and continues to increase in breadth until it enters the Gulf of St. Lawrence. At the mouth of the river Saguenay it is 18 miles wide, and at Cape de Monts, or Mont Pelée, it is 25 miles wide. At this point the coast trends to the north, and the river soon widens to 70 miles. Between Mengon, on the coast of Labrador, and Cape Rosier, on the peninsula of Gaspé, it measures nearly 105 miles across: this may be considered as the mouth of the St. Lawrence river. The tide, which rises to 18 feet along this part of America, enters far into this wide channel, and is perceptible at Trois Rivières, a distance of 432 miles from Anticosti. The water becomes brackish 21 miles below Quebec, and is perfectly salt at Kamouraska, 75 miles lower down. As a navigable channel, the St. Lawrence affords facilities similar to those of a mediterranean sea. Vessels of 600 tons burden get up to Montreal with little difficulty, as there is only one rapid to be passed, called Richelieu Rapid, which occurs 52 miles below Trois Rivières. At this place the river is so contracted and obstructed by rocks, as to leave only a narrow channel for vessels, in which, at ebb tide, a rapid is formed that cannot be passed without great care; but at high tide, when the river rises 15 or 18 feet, the rapid disappears. Between Montreal and Lake Ontario, in which part the river has the name of Kataraqui, several dangerous rapids occur, but the navigation of this part has been much improved.

The country included within the basin of the St. Lawrence river is sterile in its western districts, and as far east as 82° W. long. The elevated land which incloses Lake Superior and the western parts of Lake Huron consists principally of bare rocks, on which only pine and some other trees of stunted growth are dispersed in clumps, and extensive mosses and swamps frequently occur. The middle districts, between 82° and 71° W. long. are generally covered in their natural state with lofty trees of hard wood, and when cultivated are often very productive. Sterile tracts occur only towards the elevated region which runs along the northern border of the basin. East of 74° W. long. the country north of the St. Lawrence is in general of indifferent fertility, and the cultivable lands extend only between 40 and 50 miles from the banks of the river. They are succeeded by rocky tracts, mostly without trees, which increase in sterility as they approach the highlands of Labrador. That portion of the basin of the St. Lawrence, which lies south of the river between Lake Ontario and the Acadian mountains, has in general a considerable degree of fertility, and a large part of it is under cultivation.

9. That portion of the *Plain*, whose northern boundary-line is formed

by the countries mentioned in Section 8, is principally drained by the river Mississippi, and hence it is called the plain of the Mississippi. It is drained by that river and its numerous affluents, but it contains also the basins of several smaller rivers, which, like the Mississippi, fall into the Gulf of Mexico, and originate in a high tract which runs across the plain west of the Mississippi, near 33° N. lat., and east of the river near 34° N. lat. The high tract just mentioned constitutes the northern boundary of the slope by which the plain gradually descends towards the Gulf of Mexico. This plain comprehends more than one-fourth of the surface of North America, the basin of the Mississippi occupying nearly 1,100,000 square miles, and the basins of the smaller rivers amounting to more than 300,000 square miles. It is drained in all its length from north to south by the Mississippi river, whose bed constitutes the lowest portion of the plain. The surface of this river at the mouth of the Ohio is 300 feet, at the Des Moines rapids 565 feet, and at the mouth of St. Peter's river somewhat more than 700 feet above the level of the sea. Its source, as already mentioned, is estimated to be about 1500 feet above the sea. From the banks of the river the country rises westward and eastward. Towards the west the plain extends to the base of the Chippewyan mountains, a distance of about 700 miles on an average; and at this western boundary its elevation above the sea is estimated to vary between 2000 and 3000 feet, except, as already mentioned, in its most north-western angle, where the Black hills rest on a base about 5000 feet high. Towards the east it advances to the base of the Appalachian mountains, which vary in distance from the banks of the Mississippi from 150 to 400 miles, and whose western base is between 600 and 700 feet above the sea-level. The plain exhibits a great variety of features: a large part of it is covered with hills of moderate elevation: a still larger part consists of grassy plains without trees; and another region of about equal extent is a sandy desert, without trees and water, except along the rivers. To these three great divisions the southern slope of the plain is to be added, which varies much more in its natural features than the other three regions.

The southern slope of the plain, which extends, west of the Mississippi river, from 33° N. lat. to the shores of the Gulf of Mexico, begins on the north with a tract of grassy prairie land, which, commencing at the base of the Chippewyan mountains, extends eastward along the southern bank of the Red river, to the place where that river bends southward between 93° and 94° W. long. This broad-backed swell is probably 2000 feet high at the base of the Chippewyan mountains, but it gradually decreases in elevation as it advances eastward, and at its termination probably does not exceed 500 feet. South of this high ground the country descends by three great terraces, of which that which immediately succeeds it is covered with grassy prairies, which have an undulating surface, contain a few small hills, and are

interspersed with many clumps of trees. This country extends within 10 or 80 miles of the shores of the Gulf of Mexico, and is succeeded by a level tract, the greatest part of which is occupied by the wide bottoms along the numerous rivers that drain this country, and is thickly wooded. The upland tracts which separate the rivers are prairies, but they occupy only a small proportion of the country. Along the shores, and from 10 to 12 miles inland, there is a swampy tract covered with grass, and entirely without trees.

This country is divided from the Delta of the Mississippi by some high ground, which between the Red river and the upper course of the Sabine river is covered with pine forests; south of this region it extends in extensive prairies, which terminate from 12 to 20 miles from the shores: the country between the prairies and the shores is occupied by extensive salt-swamps, intersected by numerous lagoons.

The *Delta of the Mississippi* extends along the shores of the Gulf of Mexico nearly 150 miles, but it grows narrower as it proceeds northward. At its northern termination, in 31° N. lat., it is only 50 miles wide. But if the physical character of the country is properly considered, the Delta extends to $32^{\circ} 30'$ N. lat.; for up to this parallel a tract of low country runs along the western banks of the river, with an average width of 50 miles, which is subject to annual inundations. The Delta is annually inundated for six months to a depth varying between 3 and 30 feet, and on that account cannot be cultivated, with the exception of some narrow slips of higher ground, which extend along most of the water-courses.

East of the Mississippi river, the northern border of the slope of the great plain is near 34° N. lat. In this part a broad swell of high ground runs west and east, being at its eastern termination connected with the southern extremity of the Appalachian mountains, near 87° W. long. On the west it terminates on the banks of the Mississippi in moderate heights. This elevated tract may be on an average 1000 feet above the sea-level; and its surface is diversified with gently-rising hills. The country between this high ground and the Gulf of Mexico contains two regions. The northern, whose boundary lies between 32° and 33° N. lat., and which is about 100 miles wide, has a broken surface, sometimes rising into hills. The summits of the hills are clothed with pine trees, but their lower declivities, and the level ground which separates them from each other, are tolerably fertile. In its natural state the whole is covered with trees, except towards the Mississippi, where there are some prairies of considerable extent. The country between this hilly tract and the shores of the sea is nearly a flat, and the soil is sandy, except along the water-courses, where narrow strips of cultivable land occur, which in their natural state are covered with various kinds of trees, while the adjacent higher ground is overgrown with pine-forests: these forests extend to the very shores, which are low and sandy.

The Peninsula of *Florida*, which may be considered as an appendage to this region, presents in its northern districts a broken surface, with a few hills of slight elevation. But south of 29° N. lat. the peninsula is low and flat. Nearly the whole of its surface is covered with swamps, the tracts of dry land being neither numerous nor of great extent. The peninsula contains a comparatively small portion of cultivable land. The whole coast is flat and skirted by low, narrow islands of sand, which lie parallel to the main land, and are separated from it by shallow lagunes, which cannot be navigated. The most rapid portion of the Gulf Stream runs along the eastern shores of the peninsula, and approaches them within two or three miles.

10. The *Hilly Region* of the Great Plain occupies that part of it which lies contiguous to the southern slope, between the Ozark mountains on the west, and the Appalachian mountains on the east. Its northern boundary is marked by a line, beginning on the west on the Osage river, an affluent of the Missouri, where it is intersected by the parallel of 38° N. lat., and extending eastward along this parallel, to the point where the Kaskaskia river enters the Mississippi. From this point it runs in a north-eastern direction to the eastern extremity of Lake Erie. This line divides the Hilly Region from the Prairie Region, which lies to the north of it.

The *Ozark Mountains*, which constitute the western boundary of this region, extend in a south-western and north-eastern direction, parallel to the Appalachian mountains, between 34° and 38° N. lat. and 91° and 95° W. long. They occupy a space somewhat more than 300 miles in length, and about 100 miles in width. At their southern extremity, between the Red and Arkansas rivers, they constitute a continuous and elevated ridge, called Mount Maserne, which may attain about 2000 feet above the sea-level. Another ridge forms the western boundary of the mountain-region, and at the sources of the Osage and White Rivers it attains its greatest elevation. These two ridges are narrow, and hardly occupy one-tenth of the whole region, which is comprehended under the name of the Ozark Mountains; the remainder, with the exception of the river bottoms and small valleys, is covered with a succession of hills rising from 500 to 1000 feet above their base. These hills are very numerous, and consist of a multiplicity of knobs and peaks with rounded summits, and precipitous declivities: they are covered with pine and other trees, which indicate a poor soil. The lower tracts are tolerably fertile, but subject to inundations.

This mountain-region is divided from the hilly region east of the Mississippi river by a flat and low country extending along the western banks of the river, and to a distance of about 50 miles from it. This low country is annually inundated by the river, and a great part of it is never dry. The whole tract is covered with trees, especially cypress.

The country between the Mississippi and the base of the Appalachian

mountains rises into hills immediately near the banks of the river, but the hills are not numerous, and the level country between them is rather sandy, and only of moderate fertility: but as we proceed farther east the country gradually rises, and the hills occupy nearly the whole surface of the country. These hills do not form continuous chains, but groups with conical eminences, separated by water-worn valleys: these valleys are deep sunk below the general surface of the country, and have comparatively narrow but fertile bottoms. The higher grounds, which are diversified by a rapid succession of hills and valleys, are in general equally fertile. Where this region approaches the base of the Appalachian mountains, its general surface is about 800 feet above the sea-level, whilst on the banks of the Mississippi it varies between 200 and 400.

The *Prairies* which lie to the north of this hilly region occupy a much larger surface, extending east of the Mississippi to the southern shores of the Canadian lakes, except Lake Superior, from which they are separated by a hilly country, about 100 miles wide. They continue on the west side of the Mississippi river to the Missouri, and extend over the country which is enclosed by these rivers northward, until they meet the prairies which occupy the western portion of the Middle Plain, which indeed may be considered as the northern continuation of them. The eastern part of this region, adjacent to Lake Erie, contains extensive tracts which are richly wooded; but farther westward the country is almost entirely devoid of trees, except along the river bottoms. There are no elevations, except numerous swells, some of which are extensive; but there are also large tracts of flat country with scarcely an undulation on the surface. The rivers which run southwards into the Ohio, and northwards into the Canadian lakes, rise on such a flat, which is generally covered with swamps and morasses, some of which are very deep and miry. This tract is highest near the Appalachian mountains, and lowers as it approaches the Mississippi. Near the mountains it is from 900 to 1000 feet above the sea-level, but at the sources of the upper branches of the Illinois river it is hardly 700 feet. The swamps occur only near the sources of the rivers; the remainder of the country is a dry prairie covered with a coarse grass. It is stated by some authorities that it is fit for agriculture. The prairies west of the Mississippi are never swampy, but are more extensive and less level: they are however furrowed by numerous river-bottoms, which are generally wide and partly overgrown with lofty trees. It is stated that nineteen-twentieths of this immense tract are without food and water, if the wide bottoms are excepted through which the two great rivers, the Mississippi and Missouri, have scooped out their course. The surface of the higher ground may be from 1000 to 1500 feet above the sea-level.

The *Great American Desert* extends from the banks of the Missouri

river and the western declivity of the Ozark mountains, to the base of the Chippewyan mountains, and stretches out from 45° to 33° N. lat. It does not, however, reach the Ozark mountains, or the banks of the Missouri, being separated from them by a tract of prairie land, about 100 miles wide, so that the average width of the desert probably does not exceed 400 miles. The prairies resemble those between the Mississippi and Missouri, being dry, and without water and wood; trees occur only along the rivers. The surface of the desert is level, except that rocky masses of some extent are scattered over it, which are from 500 to 600 feet high. In the eastern districts the soil consists of fine sand, in the middle part of gravel, and near the Chippewyan mountains it is strewed with boulders, which increase in size and number as the mountains are approached, so as to cover the whole surface. No water is found except in the rivers, most of which are dry in summer. The scanty vegetation consists only of some hardy plants, on which large herds of buffaloes subsist. There are no trees except on some of the rocky masses, which sustain a scanty growth of pine, red cedar, scrub oak, &c. Even the bottoms through which the larger rivers flow are sterile, and without trees. The rivers themselves flow in very wide beds, but are extremely shallow. At its eastern border the desert may be about 1000 feet high, and near the Chippewyan mountains from 2000 to 3000 feet above the sea-level.

The northern border of the desert is formed by the *Black Hills*, which surround the upper branches of the Missouri river, and rest on an elevated base. Though imperfectly known, they apparently occupy the whole space between the course of the Bighorn river, an affluent of the Yellowstone river, and the Chippewyan mountains. So far as they are known, they consist of high hills, covered with loose stones and intersected by deep valleys. Their slopes are steep, and their summits are often inaccessible; these summits frequently have fantastic forms resembling the ruins of towns or castellated fortresses. The valleys which intersect these hills have a considerable degree of fertility, and are generally wooded, but the climate is rigorous, frost frequently occurring even in the month of August.

11. The *Appalachian** Mountains commence, at their southern extremity, between 34° and 35° N. lat., and 84° and 85° W. long., and stretch in a nearly north-eastern direction, terminating between 41° and 43° , not far from the banks of the Hudson river, near 74° W. long. This mountain system is separated by the valley of the Hudson river from the Acadian mountains, which, though generally considered as a continuation of the Appalachian mountains, differ widely from them in

* The term *Appalachian* is sometimes used in a more extensive sense, and comprehends also the Acadian mountains. This extension of the term appears to be generally adopted in the United States.

any respects, and somewhat also in direction. The Appalachian mountains occupy a surface of about 60,000 square miles: they extend a length about 600 miles, and in width more than 100 miles on an average. They consist of numerous ridges, running parallel to, and separated from, each other by wide longitudinal valleys: the ridges vary in number from six to twelve, but cover only about one-third of the entire surface occupied by the mountain-system, the remainder being filled up by the intervening valleys. The crest of the ridges runs in continuous lines, rising and descending gradually, and there are very few places where they rise into peaks. The highest summits probably do not exceed 4000 feet, and the average height of the middle and most elevated portion of the system, between 36° and 40° N. lat., is only 2500 feet. In this part the base on which the mountain-system is placed is about 1000 feet high, but towards both extremities it is much lower, and even the ridges themselves are much less elevated towards the north. All the rivers which rise within this mountain-system flow first between ridges in a north-east or south-west direction, and afterwards break through one or more of the ridges in their course into the eastern or western plains. The summit of the ridges, which is often a broad level, is generally covered with forests. At the most north-eastern extremity of the Appalachian mountains are the Catskill hills, of which the Round Top is 3804 and the High Peak 3718 feet above the tide-level of the Hudson. These are the highest summits of the range, except perhaps the Peaks of Otter in Virginia, which are said to attain an elevation of 4000 feet.

The region between the Appalachian mountains and the Atlantic is widest towards the south. Between 33° and Cape Hatteras (35° N. lat.), the shores of the sea run parallel to the range, at a distance of about 250 miles. North of Cape Hatteras the coast-line trends northward, and gradually approaches the mountains. Opposite Cape Henry (37° N. lat.) this region is still 200 miles wide, but in the parallel of Cape Henlopen (south of 39° N. lat.) it is hardly 150, which width it preserves to 40° N. lat. But in this parallel the most eastern ridge of the Appalachian mountains turns east-north-east, and thus the intervening region decreases rapidly in width. Opposite the mouth of the Hudson river it is less than 30 miles wide; and the tides of the Atlantic here penetrate the mountain-system. This region is traversed in its whole length by a ledge of primitive rocks, only slightly elevated above the common level of the country, but distinctly marked by falls or rapids in the rivers. These falls also mark the limit of the tide-water. Such rapids occur in the Delaware river at Trenton, in the Schuylkill near Philadelphia, a few miles west of Baltimore, at Georgetown in the Potomac, near Fredericksburg in the Rappahannock, at Richmond in the James river, at Munford Falls in the Roanoke, in Cape Fear river at Averyborough, in the Congaree at Columbia, and at Augusta in the

Savannah river. This rocky ledge extends even over the eastern portion of the declivity of the Great Plain, which appears by the rapids that occur in the Oconee at Milledgeville, at Fort St. Lawrence in Flint river, at Fort Mitchell in the Chatahoochee, in the Talapoosa and Coom rivers near their confluence, and in the Tombigbee near Fort Stephens. This line divides two regions which differ in character and fertility. The country which extends along the shores of the Atlantic is in general level, the soil is sterile, and the whole surface covered with pine-forests, other trees only growing on the banks of the rivers, where the sand is mixed with vegetable matter. These narrow tracts along the rivers are the only parts fit for cultivation. In the wider part of the plain, south of Cape Henry, a considerable portion of this sandy tract is occupied by extensive swamps, especially opposite to Cape Hatteras, in the neighbourhood of Pamlico Sound, and as far south as 34° N. lat. They occur also farther south along the Atlantic, but are less extensive. The tract which extends from this low and sandy country to the base of the Appalachian mountains is several hundred feet above the sea, in some parts probably as much as 1000 feet. It presents an agreeable succession of hills, with gentle ascents, and of wide and extensive valleys and flats. The lower grounds on the banks of the large rivers are very fertile, and a considerable proportion of the rest of the surface is capable of being profitably cultivated.

The low country along the Atlantic is intersected by several deep and wide indentations of the sea, as Chesapeake Bay and Delaware Bay.

12. The *Acadian Mountains* are separated from the Appalachian mountains by a remarkable depression, which traverses the country from south to north, and in a direction nearly due north. The whole length of this depression is 387 miles. It begins, at the southern extremity, at the town of New York, $40^{\circ} 50'$ N. lat., and terminates on the north at the mouth of the river Chambly, at the town of William Henry, $46^{\circ} 3'$ N. lat. The southern half of this valley is drained by the Hudson river, in which the tides ascend 150 miles, nearly to 43° N. lat., or the most northern extremity of the Appalachian mountains. From the head of the tide-water the valley drained by the Hudson rises slowly, and between the source of that river and Lake Champlain it is only 140 feet above tide-water. Lake Champlain occupies the central part of the depression, which stretches northward along the Chambly to the St. Lawrence. An elevation of 141 feet in the level of the Atlantic would insulate the whole country to the east of this transverse chasm.

The country insulated by this narrow valley, and included between it, the lower course of the St. Lawrence river and the Atlantic, is traversed in its length by the Acadian mountains. It may even be said that the whole country is one continuous mass of rocks, for, with the exception of two extensive tracts of alluvial soil which occur at the south-eastern and north-western extremities, the rocks which con-

stitute the substratum are everywhere visible on the borders of the country, both along the shores of the sea, and the valleys of the Hudson, Chambly, and St. Lawrence rivers. This rocky substratum is however generally covered with a thick layer of earth, which is capable of cultivation, with the exception perhaps of the central tract, in which, owing to its elevation above the sea, the winters appear to be too severe and too long to allow the cerealia to ripen. This central tract is situated between 45° and 47° N. lat., and 68° and 71° W. long., occupying from south to north about 120 miles, and hardly less from east to west. The surface is on an average probably 1000 or 1200 feet above the sea; it does not exhibit ridges of considerable length, but is chiefly covered with a succession of high hills or mountains, which in most places are divided from one another by small rivers, and frequently by lakes, some of which are of great extent. Level tracts of any great area seem to be rare: the sides of the hills and their summits are generally covered with wood. No settlements have yet been made in this region. The highest summit of this mass of mountains, Mount Katahdin, in the State of Maine, is nearly in its centre, and 5335 feet above the sea-level. But several high summits lie north of 46° N. lat., near the dividing line between the rivers which run to the south, through the State of Maine, and those which descend northward to the St. John river. On the east this mountain-region appears to terminate abruptly some miles from the banks of the St. John river, where it flows from north to south. The slope is inclined to the south and north, and all the rivers that originate in this region run in these directions.

From the western extremity of this mountain-region, near 71° W. long., two ranges branch off. The southern runs to the south of west, and, spreading over the country in which the Androscoggin, Connecticut, and St. Francis rivers originate, encloses the lake of Memphramagog, and terminates in some hills not far from the eastern shores of Lake Champlain, between $44^{\circ} 30'$ and 46° N. lat. West of Lake Memphramagog an offset runs northward, but terminates abruptly near $45^{\circ} 30'$ N. lat. in the Beloeil mountain, which is 1200 feet above its base. On the southern side of this range the high country continues over the whole surface of the region until it reaches the sea on Long Island Sound, opposite Long Island: its length is above 250 miles. Between 45° and $43^{\circ} 30'$ N. lat. it is about 100 miles wide, but from $43^{\circ} 30'$ only 60 miles on an average. In the northern, and wider portion, the general elevation may be between 800 and 1000 feet, but in the southern it gradually sinks lower, so as to slope gently towards its southern extremity. The central part of this elevated country is a wide valley, with an uneven surface, which is traversed by the river Connecticut; but towards the outer edges of the valley there are some hills which attain the elevation of mountains. In some parts they constitute chains many miles in length, in others only groups or single summits. The most continuous chain, called the

Green Mountains, from the fine forests which cover its slopes, extends along 73° W. long. from 43° to 44° 50' N. lat., but its width is not above 15 miles. Several of its summits rise to more than 3800 feet; Mount Mansfield (near 44° 30' N. lat.) is 3900 feet high. Opposite to this ridge, on the eastern edge of the high country, there is another but less regular ridge, the mountains which compose it being rather dispersed in groups than in a chain: between these groups there are several depressions of considerable extent. One of these groups contains the highest known summits in the Acadian system, the *White Mountains*, which lie north of 44° N. lat. and W. of 71° long., and attain in Mount Washington an elevation of 6234 feet above the sea-level. This group covers a considerable surface: towards the southern extremity of the high country the groups and isolated chains are more numerous, but they cover a small area, and do not rise to a great elevation.

The range which branches off from the mountain-region in a north-eastern direction is of a different description. It extends like a huge wall along the southern banks of the St. Lawrence river, and is united by a short range, between 70° 30' and 71° W. long., with the mountain-region. This short range contains St. Ronans Hill, which rises to a considerable height. On the banks of the St. Lawrence the range begins with Levi Point, opposite Quebec, from which point it runs in an unbroken line to Cape Gaspé, the most eastern extremity of the peninsula of Gaspé: it is above 400 miles long, and between 60 and 80 miles wide. The rocky masses generally advance close to the banks of the river, forming precipitous cliffs frequently 200 or 300 feet high. West of 69° W. long. a few low tracts occur on the banks, but farther east they entirely disappear. The rocky mountains rise rapidly farther inland, and 10 or 12 miles from the river banks they generally attain an elevation of from 2000 to 3000 feet. The highest summits occur east of 68° W. long., and the great distance at which they are discernible at sea renders it probable that this tract contains the highest summits in the Acadian mountains. A great portion of this range, especially towards the east, consists of bare rocks, but the depressions and lower tracts are well wooded.

The country enclosed by the ridges of the Acadian Mountains and the different ranges, as well as that which extends from them eastward to the Atlantic Ocean, has a hilly character, and in some parts the hills are numerous and lofty. But in general the lower tracts and the declivities of the hills are covered with a rich soil, except in a few places where the bare rocks protrude to the surface. The rivers, which descend by a comparatively short course from a level of considerable elevation, form numerous rapids and cataracts, so as frequently to interrupt the navigation. Lakes begin to be rather numerous north of 43° N. lat., and they increase in number farther north: in the centre of the mountain-region they are almost countless.

The *Bay of Fundy* separates the peninsula of Nova Scotia from the continent of America; the isthmus by which the peninsula is attached to the mainland is only 11 miles across. The direction of the bay is from south-south-west to east-north-east, and it is 180 miles long, with an average width of about 33 miles; its surface is about 6000 square miles. The shores of this bay are rocky and elevated, except in the most eastern recess; and the navigation is dangerous on account of the strength of the tide, and the prevailing fogs. The tide sometimes rises 70 feet, and rushes into the north-eastern recess of the bay with incredible velocity. Dense fogs are frequent with certain winds.

The peninsula of *Nova Scotia* resembles the other countries which are connected with the Acadian mountains. It is a rocky mass, generally rising with steep cliffs from the sea; but the cliffs are seldom high, except along the Bay of Fundy. The surface is a succession of eminences and depressions; some of the hills are rather steep, but they do not rise to a great elevation. The highest hill is stated not to exceed 700 feet. The flats are in general extensive, and chiefly covered with a good soil: the interior contains several tracts, on which the naked rocks protrude. With the exception of these tracts, the whole peninsula is covered with forests where the ground has not been cleared.

13. That portion of the *Great Central Plain* of North America which lies north of 49° N. lat. is divided into two plains, the *Middle* and the *Northern Plain*. The dividing line between them is not marked by eminences, or even by high ground, but is clearly indicated by the direction of the water-courses. All the rivers which traverse the Middle Plain empty themselves into Hudson's Bay; those of the Northern Plain join the river Mackenzie, and enter the Arctic Sea. The dividing line begins at the base of the Chippewyan mountains, between the sources of the Saskatchewan and Athabasca rivers, and runs in a north-eastern direction to Lake Wollaston, which may be considered as situated at the south-western extremity of the Arctic Highlands. From Lake Wollaston eastward to the mouth of the Mississippi or Churchill river, the Middle Plains border on those Highlands. Both plains are of equal elevation where they join one another, as is proved by the fact that of the two rivers which issue from Lake Wollaston, one flows to the north-west and falls into the lake of Athabasca, while the other runs southward and joins the Mississippi.

The *Middle Plain* extends, near the parallel of 50° N. lat., more than 1200 miles from east to west, but near 59° N. lat. it is less than 700 miles in this direction. Near the Chippewyan mountains it is about 350 miles wide from south to north, but near 95° W. long., where it is widest, it is 700 miles in width. Farther east it is narrowed by the shores of Hudson's Bay, running south-west and south; and, south of James Bay, it is hardly 100 miles from north to south. This plain is naturally divided into three sections differing in character, the eastern, the central, and the

western districts. The eastern district runs along the shores of Hudson's Bay, and extends inland from the sea to a distance varying from 100 to 150 miles. This tract is level, or exhibits only slight undulations. No rocks, however, appear on the surface, the soil consisting of alluvial clay, which easily absorbs the moisture. The number of lakes, accordingly, is small, and none of them of great extent. It is well wooded along the water-courses with willows and poplars, &c.; but the higher grounds contain little except bushes. Behind this region extends the central district, which is separated from the western by a line running from the western extremity of Lake Superior to the southern of Lake Winnipeg, and from the northern extremity of the last-mentioned lake, west-north-westward to Isle à la Cross-Lake. The subsoil of this region is primitive rock, and its surface is hilly. The hills, however, are of small elevation, few of them rising much above the surrounding country. They have generally rounded summits, and do not form continuous ridges, but are separated from each other by valleys, most of which are narrow, and very seldom level. The sides of the hills are steep, and often precipitous. Where the valleys are of any considerable extent they are invariably occupied by a lake; the largest of these lakes is Lake Winnipeg, which is about 280 miles long, with a breadth varying between 15 and 80 miles. It covers an area of about 9000 square miles. West of it are the lakes of Winnipegosis and Manitoba, and near the northern extremity of the region are Deer lake and Wollaston lake, each of which probably occupies more than 1000 square miles. The rivers which flow from the west and traverse this tract frequently expand into open sheets of water, which have the appearance of lakes, and are full of islands. The successive expansions of the rivers have scarcely any current, but are connected with each other by straits, in which the water-course is more or less obstructed by rocks, and the current is very turbulent and rapid. The rocky subsoil is generally covered with a deep layer of earth, and overgrown with high trees, which are the haunts of numerous fur-bearing animals.

The country between this wooded region and the Chippewyan mountains is a prairie without trees, which may be considered as the continuation of that extensive prairie region that occupies the country south of the Canadian lakes, and extends westward to the banks of the Missouri river, where it runs south. Its surface is nearly a dead level; the inequalities which do occur on it are so slight that the traveller is obliged to regulate his course either by the compass or the observation of heavenly bodies. The soil is sandy and dry, and entirely destitute of wood and water, the few pools which occur being mostly salt; yet it supports a thick, grassy sward, on which numerous herds of buffalos and several kinds of deer find abundant pasture. Trees occur only on the river bottoms, which are considerably below the plains, and have a soil which is apparently adapted to agriculture. Nearly all the rivers which

traverse the Middle Plain have their sources in the Chippewyan mountains, and, in traversing this part of the plain, they have the ordinary appearance of rivers, being bounded by continuous parallel banks, and not expanding into lakes. There are no lakes of any extent in this region.

The most remarkable rivers of the Middle Plain are the *Nelson* and the *Churchill* rivers. The Nelson river, called, in its upper course, Saskatchewan, rises with two large branches in the Chippewyan mountains; these branches unite about 450 miles from their sources, and after a course of 200 miles more, the Saskatchewan falls into Lake Winnipeg, from which it issues under the name of Nelson River. Its lower course is 350 miles more, so that the whole course exceeds 1000 miles in a straight line, and 1600 miles measured along the windings. The Churchill, or Mississippi, rises in Methye lake, which is nearly 500 miles from its mouth in a direct line, but the winding course of the river probably exceeds 700 miles. A river which joins it from the north brings to it the waters of Deer lake and Lake Wollaston. These, as well as the other rivers of this region, are full of rapids where they traverse the woody region, but they are nevertheless navigated. At the most difficult rapids there are portages.

The *Northern Plain* may also be called the valley of the Mackenzie river, as all the waters originating in it flow into that river. At its southern extremity (59° N. lat.) this valley is more than 500 miles wide; but at the mouth of the Mackenzie river, it is perhaps not more than 100 miles wide: its length is 700 miles. This plain also contains a prairie and wooded region, and an alluvial tract. The prairies occur along the Chippewyan mountains, and are a continuation of those on the Saskatchewan river, but their surface is much more broken and intersected by wooded hills. On the banks of the Peace river the prairies are of comparatively small extent, and are separated from each other by wooded tracts; they terminate altogether in the angle between the Turnagain river and the Great Slave lake. The eastern border of these prairies is marked by the Athabasca and Slave rivers. East and north of the prairies is the wooded region, which does not differ in its nature from that farther south, but the growth of the trees is less vigorous, owing to the severity of the climate, and they disappear entirely north of 68° N. lat. The alluvial region is limited to the delta of the Mackenzie river, which is 90 miles in length, and varies from 15 to 40 miles in width. It is partly covered with white spruce-trees, which terminate suddenly in 68° 40' N. lat.

The *Mackenzie* rises with its most southern branch, the Athabasca, on the eastern declivity of Mount Brown, and flows through Lake Athabasca. Issuing from this lake, it is called the Slave river, until it falls into Great Slave lake. Between the last-mentioned lake and the Arctic Ocean it is called the Mackenzie river. It is joined from the

west by several rivers, which originate on the western side of the most eastern range of the Chippewyan mountains, and pass through the chain by narrow valleys. Such are the Peace river, the Turnagain or Mountain river, and the Peel river. From the east the Great Bear lake river brings to the Mackenzie the waters of the Great Bear lake. Lake Athabasca covers an area of more than 3000 square miles; Great Slave lake occupies 12,000 square miles, and Great Bear lake 8000 square miles. The Mackenzie has a course of about 2000 miles.

14. The *Highlands of Labrador* extend over the vast peninsula which lies between the Gulf of St. Lawrence and Hudson's Bay. The line which divides them from Canada and the plain south of James Bay runs from Cape Torment, which is 30 miles below Quebec on the St. Lawrence, to the mouth of East Main river, which falls into James Bay. The shores of this region are formed of steep rocks, rising frequently to 200 or 300 feet on the water's edge, and some miles farther inland the mountains are from 2000 to 3000 feet high. The interior of this peninsula is little known, but, according to the account of the natives, it constitutes one continuous mass of rocks, whose general surface seems to be rather more than 2000 feet above the sea-level. It is very broken and uneven, and presents nothing but a succession of bare rocks, swamps, and lakes. Small scraggy poplars, stunted firs, creeping birch and dwarf willows are scattered over the southern districts, and some parts are covered with grass; but, in the most northern parts, varieties of moss and lichens are the only signs of vegetation. It is one of the coldest countries on the globe, but important on account of the abundance of fish along its shores; and the extensive fishery, which is carried on there, is much favoured by the numerous harbours along the eastern coast. Towards the southern extremity of these Highlands there is a deep and wide depression, which is partly occupied by Lake St. John, covering a surface of 540 square miles. From this lake the river Saguenay issues, whose course does not much exceed 100 miles; but it brings down an astonishing mass of water, and is very deep and rapid. Bouchette gives the depth of the Saguenay at four places; near the mouth, at 330 fathoms, without bottom; 100 miles from its mouth, at 14 fathoms; and in two other places, at 50 and 20 fathoms respectively. The upper part of its course is through the same depression in which Lake St. John lies, but the lower part is enclosed by steep rocks, rising from 200 to 1000, and, in some places, to 1800 feet, with a precipitous ascent. The river is navigable up to the low country, which is the only known tract of land in this region that is capable of cultivation.

The island of *Newfoundland* is separated from Labrador by the strait of Belle Isle, which is 50 miles long and 12 broad. The island greatly resembles the Highlands of Labrador. Its western districts rise nearly to the same elevation, but towards its eastern shores the hills are much

lower, and the whole country is less elevated. The spaces between the hills are partly filled up with lakes, and partly covered with swamps. The woods are not extensive, and consist of spruce, birch, and larch, of a scrubby growth. Large trees are only found on the bays, near the water, and along the rivers. Several parts of the island are tolerably well adapted to the cultivation of grain. The coast is indented with broad and deep bays, which contain numerous excellent harbours.

Hudson's Bay enters deeply into the continent of North America. It should be called a mediterranean sea, as it is larger than any of the inland seas of the old continent, the Mediterranean only excepted; and, as far as we know, it is united to the Atlantic only by a long though wide strait. It extends from south to north along 80° W. long., more than 1300 miles, and is more than 500 miles broad in the widest part. The most southern portion, called James Bay, is nearly 240 miles long from south to north, and at its entrance it is 140 miles wide. This sea can only be entered in the two months which follow Midsummer, as Hudson's Strait, which connects the bay with the Atlantic, is closed up with ice during the remainder of the year. This strait is about 360 miles long, and varies in width from 80 to 100 miles, except near its entrance from the Atlantic, where it forms a wide and open bay.

The *Arctic Highlands* occupy the north-eastern corner of the continent. They are separated from the lower country, south and west of them, by a line beginning on the shores of Hudson's Bay, near the mouth of the Mississippi river, and running westward to the eastern extremity of Athabasca lake, and thence to the west of north to the eastern extremity of Great Slave lake, and from that point proceeding in a north-western direction to the eastern mouth of the Mackenzie river. The eastern portion of this wide tract appears to resemble the Highlands of Labrador, rising from the shores with a steep ascent to a great height. The interior is not known, but it probably preserves a considerable elevation to some distance from the sea. Towards the western boundary-line it seems to be much lower, and this part is known under the name of the "Barren Grounds." The whole region is almost destitute of wood, except along the banks of the larger rivers, where it occurs in isolated clumps: the whole surface is broken, but the hills are not high, except along the sea-shore and towards the mouth of the rivers; they have rounded summits, and more or less precipitous sides. The soil of the narrow valleys which separate these hills is either an imperfect peat-earth, sustaining a stunted growth of willow, larch, and black spruce-trees, with dwarf birch, or it consists of gravel and sand, covered only by lichens. The larger depressions are filled with lakes, which generally discharge their waters into other lakes through a narrow gorge by a rapid stream. Nearly all the rivers consist of a succession of lakes communicating by channels full of rapids. The winters are more severe and longer here than on the western coasts of Greenland. The

largest river is the Thleweechodezeth, or Back's river, which rises about 100 miles north of the eastern angle of the Great Slave lake. It runs about 360 miles in an east-north-eastern direction, and falls into the Gulf of Boothia, near 68° N. lat. This region was quite unknown in 1820, with the exception of the coast along Hudson's Bay, as far north as Repulse Bay ($66^{\circ} 30'$), which had been partly discovered by former navigators, and partly by Middleton, in 1741, and of a single spot on the shores of the Arctic Ocean, which had been reached by Hearne, in an overland journey along the Coppermine river, in 1772. Mackenzie sailed down the river which bears his name in 1789. In 1821 Parry discovered the eastern coast north of 66° N. lat. up to Fury and Hecla Strait, 70° N. lat., and ascertained that there existed a strait between the Atlantic and the sea lying west of Melville peninsula; but it remained shut up with ice the whole summer. In the same year, Franklin, by an overland journey, revisited the point where Hearne had been in 1772, at the mouth of the Coppermine river, and discovered the coast east of it as far as Point Turnagain. In 1826 Richardson sailed along the coast from the mouth of Mackenzie river to the mouth of Coppermine river, and thus connected the detached discoveries which had been made before. It appeared quite impossible to penetrate through Fury and Hecla Strait into the sea west of Melville Peninsula, but it was supposed there probably might exist a strait leading from the sea, west of Melville Island, to the open sea, which washed the discoveries of Richardson and Franklin. Captain Ross accordingly sailed, in 1829, round Cockburn Island, through Barrow Strait, and entered Regent's Inlet; but, though he advanced as far south as 69° N. lat., he was unable to find a strait in these parts, as they were covered with immense masses of ice all the year round. Captain Back, in 1832, traversed the Barren Grounds and adjacent Arctic Highlands in an oblique direction, following the course of the Thleweechodezeth, or Back's river, and discovered the shore lying between 67° and $68^{\circ} 40'$ N. lat., and between 94° and 97° W. long. In 1838 Dease and Simpson, agents of the Hudson's Bay Company, advanced from Cape Turnagain of Franklin (109° W. long.) eastward to Cape Alexander, $106^{\circ} 3'$ W. long. and $68^{\circ} 44'$ N. lat. There still remain two large sections of the shores of this region to be discovered. One of these sections lies between Cape Alexander and Point Franklin (near 99°), the latter being the farthest point visited by Ross. The other section is that which extends from Cape Hay (near 94° W. long.) to the western entrance of Fury and Hecla Strait (near 86°), and which, according to the information obtained from the natives, is occupied by a deep gulf, by which Melville peninsula is nearly insulated.

15. The northern shores of *Melville peninsula* constitute, so far as our knowledge goes, the most north-eastern extremity of the continent of America. But islands of vast extent surround this peninsula on the

east, north, and north-west, which may be comprehended under the general name of the *Arctic Archipelago*. This archipelago is divided from the mainland of America by Hudson's Strait, by the northern portion of Hudson's Bay, known by the name of Fox Channel, by Fury and Hecla Strait, and by the southern portion of Regent's Inlet, and farther west by the strait which divides the island of Boothia Felix from the continent. The last-mentioned strait is supposed to exist, but its real position has not yet been ascertained. The sea to the west of Boothia Felix has not been explored.

This archipelago may be considered as divided into two groups by Baffin's Bay and Lancaster Sound. *Baffin's Bay*, including Davis's Strait, which constitutes its southern portion, extends in a north-by-west direction from Cape Farewell (near 60° N. lat.) in Greenland, and the entrance of Hudson's Strait as far north as Smith's Sound (78° N. lat.), more than 1300 miles, with an average width of about 300 miles. It is only accessible to vessels from the beginning of June to the end of September. During the remainder of the year large masses of ice, in the form of icebergs or floes, render navigation impossible. As the black whale is very abundant in this sea, it is much frequented during the summer by whaling vessels. The sea is remarkably free from islands and cliffs, and is of great depth; but along its eastern shores there are innumerable cliffs and rocky islands of small extent and very steep acclivity, rising to a considerable elevation above the sea-level. A strong current sets round Cape Farewell, and continues northward along the eastern coast of the strait as far north as 67° N. lat., where the bay is narrowest. In this part the current traverses the sea to Cape Walsingham, and thence continues southward along the western shores of the bay, and the northern coasts of Labrador and Newfoundland. No current is perceptible north of 67° N. lat. along the eastern shores, but the large masses of ice which beset the western shores, even during the summer months, and render them almost inaccessible, seem to indicate that they are carried to this coast by a current. At the most northern extremity of Baffin's Bay is Smith's Sound, which is shut up by thick ice all the year round, so that it has been impossible to ascertain whether it is only a deep inlet, or an arm of the sea, which divides Greenland from the islands lying farther west. Towards the northern extremity of Baffin's Bay, south of 75° N. lat., a wide arm branches off towards the west, called *Lancaster Sound*, which, as far as is known, extends more than 500 miles westwards, between 74° and 75° N. lat. Its average width does not exceed 60 miles. The countries bordering on it to the south and north are divided into several islands by wide and deep bays, among which the best known is Regent's Inlet, which, according to information derived from the natives, stretches southward to the neighbourhood of the Polar Circle, and washes the western coast of Melville Peninsula.

The countries to the west of Baffin's Bay and south of Lancaster

Sound are probably divided into several islands by long and narrow straits; some of them have been partially examined, but have always been found blocked up by great ice-masses, such as Frobisher's Strait and Cumberland Strait. These countries now appear on our maps as three large islands—Cumberland Island, lying west of Davis Strait; Cockburn Island, situated west of the northern portion of Baffin's Strait; and Boothia Felix: the last is divided from the two former by Regent's Inlet, and lies farther west. It is yet uncertain whether a strait divides Cumberland Island from Cockburn Island, and it may be the case that both form one vast island.

These extensive masses of land resemble in their character the Arctic Highlands, rising from the sea with a steep ascent, and attaining a considerable elevation at a short distance from the shores. Their interior seems to be always covered with ice and snow, and the seas surrounding them can only be navigated for a month or six weeks, and even this not every year. The vegetation, which seems to be limited to the lower shores, consists of a few hardy plants, and a few willow-bushes; but principally lichens and mosses. The rein-deer, musk-ox, several kinds of deer, wolves, and foxes, are found, but they do not appear to be numerous. Marine animals and fish are plentiful, especially whales, morse, seals, &c., and sea-fowls are innumerable. The Esquimaux who inhabit the shores consist of a small number of families. They live on the marine animals, especially on seals.

The islands along the northern side of Lancaster Sound have only been seen at their most southern extremities, and their extent northward is unknown. They seem to be separated from each other by wide straits. The most western of these islands is Melville Island, which is traversed by the meridian of 110° W. long. Towards Baffin's Bay the country seems to constitute a continuous mass of land, which at the entrance of Lancaster Sound trends towards the north, and in that direction stretches to Smith's Sound, which is the north-western limit of Greenland. This portion of the Arctic archipelago is called *North Devon*, and the islands farther westward are called *Parry Islands*. The shores are principally formed of steep rocks, and the interior is occupied by high hills and mountains, always covered with snow. The vegetation is still more scanty than on the islands south of Lancaster Sound; the animals do not differ, but their number is smaller. North Devon seems to be uninhabited, but there are a few families of Esquimaux on Parry Islands.

Greenland may be considered as constituting the main body of the Arctic archipelago. It appears to be one continuous mass of land, extending from Cape Farewell (60°) to 78° N. lat., a distance of more than 1260 miles. It has been supposed that north of 75° it is divided into several islands by long narrow straits stretching across the country from the Polar Sea east of Greenland to Baffin's Bay. But this suppo-

sition is not very probable, as the width of the island in these parts amounts to more than 600 miles. Nearly the whole surface is covered with perpetual ice and snow, which in many places descends in the form of glaciers to the very shores, and in some parts the coast, instead of rocks, consists of masses of ice, rising many hundred feet immediately from the depth of the ocean. By continual accumulation of ice, these glaciers grow to a great size, and their base being washed away by the waves of the sea, enormous blocks of ice break off and swim about in the ocean as icebergs. Some of these swimming masses are 200 feet above the sea-level, and as, according to experiment, only one-seventh of the mass rises above the water, they must be 1400 feet high. These masses originate both on the eastern and western coast of Greenland, and are carried far to the south by the currents which run along the eastern coast southward, and along the western northward, until they reach the narrowest part of Davis's Strait, and again turn southward along the shores of Cumberland Island, Labrador, and Newfoundland. The icebergs sometimes advance as far south as $40^{\circ} 45'$ N. lat., but they do not spread over the sea which extends between Iceland and Great Britain, being pressed close to the south-eastern shores of Greenland by a strong current which sets perpendicularly upon these shores. Thus all the icebergs are carried towards the north-eastern coasts of America. The eastern coasts of Greenland generally rise in high masses of rocks or ice close on the sea-shore, so as to leave only a few low spots of moderate extent along the beach. This, and the circumstance of its being all the year round beset with enormous masses of ice, render the vegetation extremely scanty, and the fishing very precarious. Accordingly, a very small number of Esquimaux are the only inhabitants of this coast. The western shores exhibit a regular and continuous coast-line when taken from point to point, but between these points there are deep inlets, which penetrate into the rocky masses to the distance of 100 miles. Along these inlets, and especially near the points where they are connected with Baffin's Bay, tracts of lower ground are more common and more extensive, and are sheltered by the mountains against the cold winds. In these places vegetation is much more vigorous than on the eastern coast, or in any other part of the Arctic archipelago, or even on the Arctic highlands, or those of Labrador. The sea also being less incumbered with ice during several months of the year, the inhabitants are able to employ a considerable time in fishing, on the produce of which they subsist. The climate is also less severe. Still the ground does not begin to thaw before the end of June, and ice is always found at a small depth. July is the only month when there is no snow, and in this month the thermometer sometimes rises to 92° Fahr. The aurora borealis is frequent in all the countries which belong to the Arctic archipelago, and appears with great splendour. The vegetation in the northern districts consists chiefly of lichens and mosses,

but farther south it includes a small number of annual plants, and some shrubs, most of which bear edible berries. In well-sheltered valleys birch and mountain-ash grow to the height of a man, and have a stem three or four inches thick. The cultivation of oats and barley has been attempted in the most southern districts, but not successfully. Potatoes, however, are raised, and a few vegetables: a few sheep are kept by the European settlers: the only domestic animal of the natives is the dog, which is used to draw sledges. Rein-deer, hares, foxes, and white bears are the only wild animals. Sea-fowl are very plentiful. Fish, especially cod and caplin, are very abundant; but seals supply all the wants of the natives. The Esquimaux inhabit this western coast as far north as 70° N. lat., and the eastern as far as 76° N. lat.

The islands of Iceland and Spitzbergen belong to the Arctic archipelago, but they are generally considered as parts of Europe. Between them lies the rocky island of Jan Mayen, which contains an active volcano and rises in its highest part nearly to 7000 feet. It is uninhabited.

Greenland was discovered in 981, by an Icelander named Gunbiörn more than 500 years before the discovery of America by Columbus. The Icelanders established some settlements, and, as it has been generally supposed, on the eastern shores. But Graah, who visited Greenland in 1829, found that the lower tracts on that coast are much too limited to contain so many villages as, according to historical records, had been established there; and that this coast is rendered inaccessible to any vessel by a broad belt of ice which always exists along the coast and frequently extends to the shores of Iceland. The whole Icelandic colony suddenly disappeared in the beginning of the fifteenth century, and Greenland was re-discovered by Davis in 1586. In 1616 Baffin and Baffin penetrated to the most northern extremity of Baffin's Bay. Hudson had discovered, in 1610, the strait and bay which bear his name. The coasts surrounding Baffin's and Hudson's Bays were partly explored by the numerous vessels employed in those seas for catching whales, and partly in consequence of the establishment of the Hudson Bay Company; but for more than two centuries no progress was made in the discovery of the Arctic archipelago, though several expeditions were sent to these seas in search of a north-west passage. In 1819 Captain Parry penetrated into Lancaster Sound, and discovered all the islands which lie along its shores between 80° and 112° W. long. He passed the winter on Melville Island in Winter Harbour, but was prevented by ice from extending his discoveries farther west. In 1819 and 1822 Captain Parry examined the northern portion of Hudson Bay, and discovered the coast which stretches along the eastern side of Melville Peninsula, as far north as Fury and Hecla Strait. He found the western extremity of the strait blocked up with ice, and he passed the winter on the island of Igloodik. The following summer he found that the ice in the strait did not dissolve, or permit the vessels to enter.

the adjacent seas. In 1825 Captain Parry sailed again to Lancaster Sound, and entered Regent's Inlet, in which he proceeded southward to $72^{\circ} 40'$, where one of his vessels was destroyed by the ice, and he was obliged to give up all thoughts of proceeding farther in that direction. The last attempt in these parts was made by Captain Ross, who was sent out at the expense of a wealthy individual, Sir Felix Booth, in 1829. He sailed to Regent's Inlet and discovered the western shores of Boothia Felix, as far south as 69° N. lat., but he did not succeed in discovering the strait which is supposed to exist in these parts. In this voyage the position of the magnetic pole was discovered to be in $70^{\circ} 5' 17''$ N. lat., and $96^{\circ} 46' 45''$ W. long. Meanwhile some parts of the shores of Greenland, which had hitherto remained unknown, were examined. In 1822 Captain Scoresby examined that part of the eastern coast which lies between 69° and 75° N. lat., and in 1823 Captain Clavering carried his discoveries to 76° N. lat., and found these districts inhabited by Esquimaux. Captain Graah, a Dane, was sent by the Danish government to explore the coast of Greenland, opposite to Iceland, which all previous navigators had found to be inaccessible. He penetrated from Davis' Strait, in a boat, through a strait which separates a group of islands lying contiguous to Cape Farewell from the mainland of Greenland, and examined the eastern coast, as far as Dannebrog's Island ($65^{\circ} 15' 36''$ N. lat.). Between the discoveries of Scoresby and Graah there still remained an unexplored coast of more than 250 miles. In 1833 the French government sent De Blosseville to survey this coast, though Graah had positively denied that it could be approached from the sea. The Frenchman discovered the coast contiguous to that which had been surveyed by Scoresby, but only between $68^{\circ} 55'$ and $68^{\circ} 34'$ N. lat., and perished in the attempt to carry his discoveries farther.

16. The best part of North America is divided between two independent republics—Mexico, and the United States of North America—which comprehend nearly all that portion which lies south of 49° N. lat. The countries north of that parallel are considered as belonging to the British, Russians, and Danes. Nearly the whole of this northern part is subject to Great Britain, the Russians having only some settlements on the north-western coast, and the Danish colonies being limited to the western coast of Greenland. All the states which constitute the Mexican confederation are situated on the Mexican Isthmus; and those countries which belong to that republic, and are situated on the continent of North America, are either not occupied by European settlements, or constitute territories;—as Lower and Upper California, and New Mexico, or the territory of S. Fé. They are noticed in the description of the Mexican states. The north-eastern portion of the state of Colahuila is also situated on the continent of North America. This country, called Texas, has recently separated itself from the Mexican Union, and requires a distinct notice.

GENERAL VIEW OF THE MEXICAN ISTHMUS.

1. *Situation, Extent, and Population.* 2. *Natural Divisions.*
 3. *Political Divisions.*

1. *THE Mexican Isthmus*, which connects North and South America, is generally considered as a part of North America. But its vast extent, its peculiar situation, and still more its physical character, entitle it to be considered a separate division of the American Continent. Though the mountain-masses of this isthmus rise to a great elevation, and occupy a much larger relative portion of the country than the Andes in South America, or the Chippewyan Mountains in North America, they are quite unconnected with either of these mountain-systems, being separated from them by level plains of great extent. Besides this, the mountain-masses of the isthmus do not, like the Andes or Chippewyan Mountains, extend in continuous chains, but they spread out in vast table-lands, the surface of which is many thousand feet above the level of the sea, and the base is bordered by low plains of comparatively small extent.

The *Mexican Isthmus* begins on the south at the Gulf of St. Miguel, on the Pacific, and the mouth of the Atrato river on the Gulf of Darien, both which points lie near 8° N. lat., and on both sides of 78° W. long. From these points it extends in a west-north-western direction to the most northern corner of the Gulf of California, 32° N. lat., where it is divided from North America by a sandy plain extending from the mouth of the Rio Colorado along the banks of the Rio Gila, nearly to its source, and thence to the banks of the Rio del Norte. So far the dividing line runs near 32° N. lat., but farther east it follows the course of the Rio del Norte, from the place where it begins to bend to the east, near 29° N. lat., to the mouth of the river in the Gulf of Mexico.

The area of the isthmus may be about 1,000,000 square miles, or one-twelfth part of the whole Continent of America. It is by far the most populous part of America, taking into the account its extent, as its population probably does not fall short of 10 millions, which is more than one-fifth of the population of the whole continent.

2. The *Isthmus* is naturally divided into two portions, the narrower and the wider part. The narrower part is known by the name of the Isthmus of *Panama* and *Nicaragua*, and comprehends the countries lying between 8° and 12° N. lat., and between 78° and 87° W. long. At three places in this isthmus a low and generally level plain extends across it from the Caribbean Sea to the Pacific. Two of these plains, lying towards the eastern extremity of the isthmus, are separated by a short and isolated range of mountains, called the Mountains of Panama, which attain no great elevation. The plains are succeeded by two table-

lands of moderate extent, those of Veragua and Costarica, and another low ridge unites these two elevated plains. To the north of the table-land of Costarica extends the wide plain of Nicaragua.

The wider portion of the Mexican Isthmus, comprehending that portion which extends from 12° to 32° N. lat., consists of three table-lands, two of them of considerable and one of great extent. The most eastern is the table-land of *Honduras*, which stretches northward to the Gulf of Honduras, and is connected with the table-land of *Guatemala* by a short and moderately-elevated range, which traverses the Isthmus of *Chiquimula*, and lies on both sides of 89° W. long. The table-land of *Guatemala*, which lies farther west, and occupies nearly the centre of the Mexican Isthmus, extends to the Isthmus of *Tehuantepec*, which is situated on both sides of 95° W. long. The peninsula of *Yucatan* is an appendage of the table-land of *Guatemala*. The remainder of the Mexican Isthmus is a succession of extensive table-lands, varying in elevation, and stretching northward to the plain, which borders the isthmus on the north, and divides it from North America. These table-lands are known under the name of the *Mexican Table-lands*.

It is remarked that the table-lands of this isthmus increase in extent, and probably also in elevation, as they advance towards the north-west.

3. The Mexican Isthmus is distributed among three States. The most eastern, and comparatively a very small portion of it, constitutes a department of the Republic of New Granada. The middle portion, extending to the Isthmus of *Tehuantepec*, forms the Federal Republic of Central America; and the remainder constitutes the greater and more important part of the Federal Republic of Mexico.

THE ISTHMUS OF PANAMA AND NICARAGUA.

1. *Situation and Extent.* 2. *Surface, Rivers, Lakes, and Bays.* 3. *Climate and Productions.* 4. *Harbours and Towns.* 5. *Political Divisions.*

1. This Isthmus acquires additional interest from the fact, that, if a canal admitting vessels of great burden could be constructed across it, so as to unite the two oceans, not only would our intercourse with the countries on the western coast of America, but also with China and the other eastern parts of Asia, be materially facilitated.

The southern extremity of the isthmus may be fixed at the innermost angle of the Gulf of Darien, in the Caribbean Sea, and at that of St. Miguel, near the 8th parallel of North latitude. Its north-western extremity extends to the lakes of Nicaragua and Managua, or rather to the port of Realejo, N.W. of the lake of Managua. A line

drawn from the latter point to the mouth of Blewfield's river divides it from the larger table-lands of the Mexican Isthmus. Along the Pacific it extends from 78° to 87° W. long., and from 8° to $12^{\circ} 30'$ N. lat.; and along the Caribbean Sea, from 77° to 83° W. long., and from 8° to 12° N. lat. Its whole length is not less than 700 miles in a straight line.

The isthmus forms two curves, the eastern of which encloses the bay of Panama, having its opening towards the south, on the Pacific; the other encloses the Mosquito Gulf, and its opening is towards the north-east, on the Caribbean Sea. The former is the more narrow portion of the isthmus, and is properly called the *Isthmus of Panama*. The other wider and more extensive portion is the *Isthmus of Nicaragua*.

2. It is generally supposed that this isthmus is traversed by a mountain-range connecting the Andes of South America with the mountains of North America; but this is not the fact. At the eastern extremity of the Isthmus of Panama, between the mouth of the Rio Atrato and the bay of St. Miguel, every trace of the Andes has disappeared, and a level plain extends from one sea to the other. This plain, which is about 140 miles long, from east to west, terminates, on the shores of the Caribbean Sea, at the western extremity of the Bay of Mandingo, or St. Blas, and on the shores of the Pacific, in the neighbourhood of the town of Panama. It is nearly level, and apparently not many yards elevated above the sea. It is covered with a dense forest of high trees, and drained by numerous small rivers, which fall into the Gulf of Darien, or into that of Panama.

The most considerable of these rivers is the Ballano or Chepo, which rises at the south-east extremity of the isthmus, under the name of Canada, and runs westward nearly in the middle of it for many miles, until it suddenly turns to the south and enters the Gulf of Panama, about 25 miles east of Panama. It is navigable from the sea to this bend, and a little higher up the small town of Chepo is situated on its banks. The line of this river is generally considered as the boundary between the European settlements on the southern or Pacific coast and the Mandingo or St. Blas Indians, who inhabit the country about the Bay of Mandingo. Great animosity exists between these different races. The European settlements are small and few in number. Opposite Mandingo Bay the isthmus is contracted to its narrowest limits, measuring hardly more than 18 miles across in a straight line.

At the western angle of the Bay of Mandingo rises a range of high hills, divided into two parallel ridges, which extend south-west and north-east, and occupy the whole breadth of the isthmus between that bay and the Bay of Limones (Porto de Naos or Navy Bay), stretching about 70 miles on the north coast, but probably not occupying more than half so much space on the south shore. The summits of this ridge near Panama rise to 1000 or 1100 feet, and in the neighbourhood

of Porto Veló they are considerably higher. In this part the isthmus is upwards of 30 miles wide.

To the west of this range extends another low plain, which however in parts is covered with conical hills rising from the plain, but seldom exceeding from 300 to 500 feet in height. Between the Bay of Limones and the mouth of the Rio Chagres these hills are numerous, but less so between the Chagres and Chorera, where they are divided from one another by level tracts of considerable extent. Such is the country which extends along the Gulf of Panama from the Punta Chame to the innermost angle of the Gulf of Parita, and on the Caribbean Sea from the Bay of Limones to the neighbourhood of the island called Escudo de Veragua, a distance of about 70 miles. The average breadth of the isthmus in this plain is above 50 miles.

Among the numerous rivers which drain the two last-mentioned districts of the isthmus (most of which are dry in summer), the most important is the *Chagres*, which rises some distance east of Porto Velo, among the mountains which approach the Bay of Mandingo, and takes a westward course through the middle of the isthmus between the two parallel ridges. Nearly opposite Porto Velo it is joined by the *Pequeni*, which comes from the south-east, and is as large and broad as the *Chagres*. Both rivers flow with great velocity as far as their junction. At Cruces, however, the rapidity of the current abates, and farther down seldom exceeds 3 to 3½ miles an hour, even in the rainy seasons; and towards its mouth its rate is only from 1 to 2 miles per hour. About 24 miles from its mouth, where it leaves the mountains and enters the plain, it is joined by the *Trinidad*, which rises very near the south coast, not far from the town of Chorrera, and is navigated by canoes as far as the town of Capua; it has a considerable depth and width, and no falls or other impediments to easy navigation.

The *Caymito* or *Chorrera*, which enters the Bay of Panama about 10 miles west of the town of that name, is formed by the junction of numerous petty streams, which take their rise in the country farther west. It is very deep towards its mouth, and one branch of it continues navigable to the town of Chorrera; but the tide runs very strong in and out of the river, not being impeded by a bar at its mouth, and the anchorage for shipping is bad and exposed.

The *Gulf of Panama*, which is surrounded by the portion of the isthmus already described, is a spacious bay about 130 miles wide at its entrance, and extending about the same distance to the north. On its eastern side is the Bay of St. Miguel, and on its western the Gulf de Parita. Towards its north-east shore there is a cluster of rocky islands called *Islas de la Perlas* (the Pearl Islands), among which a quantity of pearls are annually procured; the largest of these islands is *Isla del Rey*. In the north-west angle of the bay are a few rocky islands not far from the mainland, which form the harbour of Panama. The mean

rise and fall of the tide two days after full moon is 21·22 feet, whilst on the opposite side of the isthmus in the Caribbean Sea it amounts only to 1·16 feet. The high-water mark in the Atlantic is 13·15 feet lower than in the Pacific.

The country beginning at the Punta Mala, the western boundary of the Gulf of Panama, and extending between the two seas about 400 miles, and about 120 miles from north to south, presents a different aspect. It seems to be one uninterrupted mass of rocks, which rise with a pretty steep ascent from both seas, and form in the central districts the Table-land of *Veragua*, on which a few scattered summits rise to a considerable elevation. The table-land is supposed to be from 2000 to 3000 feet above the sea, and the peaks probably attain a height of 8000 feet and upwards. The most elevated peak appears to be the Silla de *Veragua*, not far from *Veragua*. The rocky descent approaches close to the shores of the Pacific, but it is separated from the Atlantic by a narrow strip of level country.

The table-land of *Veragua*, which is imperfectly known, approaches the eastern extremity of the Lagoon of Chiriqui, an extensive sheet of water, which may be considered as the innermost angle of the Mosquito Gulf. It is separated from the open sea by a series of islands, divided from one another by passages of considerable depth. It extends along the coast about 90 miles, and from 30 to 40 miles inland. The interior of the lagoon is occupied by numerous islands of moderate extent, except at both extremities, where there is a large expanse of open water, affording excellent anchorage. The western portion is known under the name of Admiral's Bay.

The shores of the lagoon are low, and covered with thick forests. About 12 miles from the lagoon the country gradually rises, and continues to rise to the foot of a ridge of mountains called the Cabecares Mountains, which probably do not attain a height of more than 3000 feet above the sea, and are of very inconsiderable width. This ridge connects the table-lands of *Veragua* and *Costarica*, and is about 100 miles long. Towards the Pacific the mountains lower with a steep descent, and terminate on this sea in a high and rocky coast. The plain of Chiriqui, or the gradual descent from the Cabecares Mountains to the lagoon, is more than 100 miles long, and about 50 wide; and the mountains, together with the rocky tract on the southern coast, may be about 20 miles across.

The table-land of *Costarica* occupies the country between 9° 20' and 10° 20' N. lat., where the isthmus is about 70 miles wide. The elevation of its surface is estimated to be about 2000 feet above the sea-level, but it seems to be much higher, as the thermometer of Fahrenheit in winter sinks to the freezing point. Over the broken and rather hilly surface of this table-land are dispersed a considerable number of high peaks, rising to more than 10,000 feet above the sea-level. Most of

them, if not all, are volcanoes, and several have been active within the last century. Towards the Pacific and the Gulf of Nicoya the descent is gentle, or rather in terraces, and the high land advances close to the shores of the sea. The descent on the east is abrupt, and terminates about 20 miles from the Mosquito Bay, the intermediate space being occupied by a low and level country, covered with forests, and subject to inundations. The numerous rivers which descend from the eastern side of the table-land bring down during the rains a great volume of water, which cannot be carried off by the rivers. The whole plain, with the exception of a few spots, is consequently laid under water, to a depth varying between 9 and 30 feet. Through this plain, and parallel to the low shores of the Mosquito Gulf, extends a natural canal, called the Canal de la Baya. It is from 2 to 5 miles distant from the sea, and of considerable width; it is said to be navigable to a great extent, the places where it is stopped up not being numerous. The greatest part of this plain is still possessed by native tribes, and bears the name of Talamanca.

On the Pacific is the Gulf of *Nicoya*, which has a wide open entrance, turned to the south-south-west, but grows narrower farther inland. It is about 70 miles long, contains a good harbour, and several islands, near which pearls are fished, and a shell-fish is found which yields a bright-red dye.

The hills which enclose the Gulf of Nicoya on the north-east are the most north-western offset of the table-land of Costa Rica. North of this table-land is the Plain of Nicaragua, which towards the Mosquito Gulf is nearly a dead level, but in its western districts is rather hilly. A continuous range of hills, connected with the north-western corner of the table-land of Costa Rica, traverses the plain in a north-west and south-east direction. It divides the hilly portion of the plain from the dead level, and approaches nearer the Pacific as it proceeds farther north. Where it approaches the Lake of Nicaragua it contains several volcanoes. Continuing farther to the north-west between the lakes of Nicaragua and Managua and the Pacific, the hills subside, and entirely cease opposite the north-western extremity of the Lake of Managua: they are succeeded by a low and level plain, about 10 or 12 miles wide, which on the north is bounded by the group of volcanoes which surround the Bay of Conchagua on the south. The northern boundary-line of the plain of Nicaragua runs through a tract of country which is very little known, and it lies between $12^{\circ} 30'$ on the Pacific, and about 12° on the shores of the Mosquito Gulf. On the last-mentioned sea it is contiguous to the great plain which extends from this point northward from $12^{\circ} 30'$ to the very shores of the Gulf of Honduras, and even continues along this sea westward from Cape Gracias à Dios to the mouth of the Rio Tinto (Black River). The Isthmus of Nicaragua, measured across this plain, is on an average 150 miles wide.

A considerable part of the western portion of the plain is occupied by

lakes, of which the largest is the *Lake of Nicaragua*. This lake is 120 miles long and 40 in breadth in the widest part. At a little distance from the shores it is from 6 to 20 fathoms deep, and in some places it is much deeper. It is interspersed with islands, most of them the result of volcanic action, and some of considerable height. The most remarkable is the island of Ometepe, not far from the south-west shore, which contains a lofty volcano, and two villages inhabited by from 3000 to 4000 Indians. The surface of the lake is 134 feet above the level of the Pacific at high-water mark.

The south-west shores of the lake are formed by a sandy bank about 20 or 30 feet broad, from which the ground rises 15 or 30 feet, and afterwards gradually to 500 feet and upwards; on this elevation several volcanic cones are situated. The most narrow part of this volcanic isthmus is between the town of Nicaragua and the port of S. Juan del Sud, where it does not much exceed 13 miles in width, and rises to a height of between 400 and 500 feet.

To the north-west of the lake of Nicaragua is the *Lake of Managua*, which is about 45 miles long, with an average breadth of about 15 miles. It is of sufficient depth for large vessels. In the middle is an island of a conical form, called Monotombito. On the north-western shores of the lake stands the volcano of Monotombo, which generally emits smoke, and occasionally causes earthquakes.

The lake of Managua has no outlet. It receives its waters from the lake of Nicaragua by the river Tepitapa, which is from 25 to 30 miles long, and is not navigable. This river contains several rapids, and it forms a cataract, which in the dry season is from 6 to 8 feet high. The banks of this river are from 20 to 30 feet high, and are mostly formed by the currents of lava from the volcano Managua, which is at no great distance from its south bank.

Only a small part of the waters of the lake of Nicaragua goes to the lake of Managua: the larger part is carried to the Caribbean Sea by the *Rio de S. Juan*. This river, which is about 120 miles in length, issues from the lake somewhat north of its south-eastern extremity, and at first runs to the south-east, but the greatest part of its course is nearly due east. In its upper course it is from 500 to 600 feet wide, and from 6 to 7 feet deep. About the middle of its course it receives the river St. Carlos, and lower down the Serapique, both from the south. About 20 or 25 miles from its mouth it divides into two branches, of which that to the south, named Rio Colorado, is the wider. Its depth varies greatly; it is generally from 9 to 20 feet deep, but in several places it is so shallow as to produce rapids. The most considerable of these rapids occurs about 25 miles from the lake, where the river forms a sharp turn. Below the bifurcation the river is in general shoal, and in the dry season in many places it is not more than 2 feet deep. The northern branch enters the harbour of S. Juan. Both the lake of Nica

gua and the river S. Juan are navigated by small river barges, called *ungoes*, of about two tons burthen.

The plain which extends on both sides of this river is low and nearly level, especially along the upper and lower parts of its course; between the mouth of the Rio de S. Carlos and the bifurcation the banks are somewhat higher, and a few low hills appear at a distance.

3. The climate of that part of the isthmus which bears the name of Panama has only two seasons—summer, or the dry season, and winter, or the rainy season. The summer begins at the end of December, and lasts till April: the winter continues from April to December. The quantity of rain which falls is prodigious, but its amount varies in different places. In those parts which are most advantageously situated, as in the town of Panama, little rain falls in April, but it increases in May and June, and is incessant throughout July, August, September, and October. In November the nights only are wet and cloudy, and the weather improves in December. In January, February, and March, a shower of rain is as uncommon as a gleam of sunshine in the months following the summer solstice. The rains are frequently accompanied by storms of thunder and lightning of the most terrific description. In the early part of the summer the thermometer rises to 90° , and even 93° , and the weather is very sultry during the day, but the land-winds at night are cool, blowing chiefly from the mountains which occupy the middle of the isthmus. In the rainy season the thermometer stands at night at 82° , and in the day it rises to 87° . Most parts of the isthmus are very unhealthy, but the town of Panama is an exception.

The whole of this isthmus, with the exception of a few spots and some steep rocks, is covered with the most luxuriant vegetation. The caoutchouc-tree, the milk-tree (*palo de vaca*), and the vanilla-plant are common. The charcoal made here is considered excellent for smelting, and is exported to Peru. The *styrax officinalis* of Linnæus is very abundant, and the gum extracted from it forms an article of export. The cultivated grains are rice and Indian corn. The sugar-cane is grown, but not extensively. Coffee and cacao are only cultivated for domestic consumption.

The cattle are of a good size; but the horses are small, though hardy. There are also mules, goats, and pigs; fowls are plentiful. The wild animals used as food are deer, monkeys, the iguana, rabbit, and hog. The largest wild animals of the carnivorous kind are the tiger-cat, puma, and bear. The most common birds are wild turkeys, both black and coloured, pheasants, pigeons, and ducks. Fish is plentiful; hundreds of young sharks, of the kind called shovel-nosed, from 1 to $2\frac{1}{2}$ feet long, are daily sold in the markets of Panama.

Two gold-mines are worked in the neighbourhood of Puerto Velo, but their produce is insignificant. In many places the materials for building are abundant and excellent.

The climate of the table-lands which lie between the isthmus of Panama and the Plain of Nicaragua is much more regular and healthy. The seasons fall nearly in the same months, but the dry season begins in November instead of December, and lasts until April. In the rainy season thunder-storms are frequent. The thermometer rarely sinks below 65° , and rarely rises above 85° . The tracts of low country along the coast do not materially differ in climate from the isthmus of Panama. There are few forests in the more elevated districts, but they abound on the lower declivities, and also on the level coast. Wheat is cultivated only at the western and higher extremity of the country about the town of Carthago. Maize and sugar are more important objects of agriculture, and as well as timber are exported to Peru and Chile. Metals are abundant, and some mines situated at no great distance from the plain of Nicaragua are worked, especially those del Aquacate, not far from the Bay of Nicoya, which yield gold. Cacao is raised in small quantities: part of the tobacco which is cultivated on the table-land of Costarica is exported to the countries farther north.

The Plain of Nicaragua differs greatly from the Isthmus of Panama in climate. Though warm throughout its whole extent, it is unhealthy on the east side of the lake of Nicaragua, where the plain is covered with large forests, the excessive luxuriance of which has not been checked by the industry of man. Scarcely a day passes without rain, especially near the shores of the Caribbean Sea; and the rain sometimes pours in torrents for weeks together. The volcanic country about the lake, especially on the west side, has much more regular seasons, and even in the rainy season the wet weather is not continuous: the climate is accordingly much more dry and healthy.

The productions of this plain are numerous and valuable; but agriculture is chiefly limited to the raising of cacao, indigo, rice, Indian corn, bananas, and cotton. The forests produce different kinds of wood, as mahogany, cedar, and pine. On the eastern borders of the Lake of Nicaragua there are extensive pastures, on which cattle, horses, and mules are reared, a considerable number of which are sent to the northern countries, as well as hides and cheese of an indifferent kind. The western coast abounds in pearls and mother-of-pearl shell.

4. The harbours along the Caribbean Sea on the Isthmus of Panama are Puerto Velo, Limon, and Chagres, and Panama on the Pacific.

Puerto Velo (Porto Bello), in $9^{\circ} 34' N.$ lat., and $77^{\circ} 45' W.$ long. is an excellent port, nearly of a circular form, and surrounded by high mountains. The town consists of one long street, which encircles the bay, with a few short streets branching off, where the ground will admit of them. Although a century ago it was a rich and populous place, the unhealthiness of the climate, arising from its moisture and heat, has caused it to be nearly abandoned. In 1822 it contained 112 inhabitants.

Limon Bay (Puerto de Naos, Navy Bay), which is some miles farther west, is an extensive sheet of water, with several coves affording good anchorage. Its environs are uninhabited, but it appears that it would be easy to cut a canal to the Rio Chagres, which approaches the bay within $2\frac{1}{2}$ miles, and is separated from it by a tract which is nearly a perfect level.

Chagres, at the mouth of the Rio Chagres, has a good harbour, but vessels drawing more than 12 feet water cannot enter it, on account of a ledge of rock which runs across its entrance. It is also an unhealthy place. The town is a mere collection of huts, which in 1822 contained 856 inhabitants of mixed race. By means of this harbour the town of Panama carries on some commerce with Jamaica.

Panama, in $8^{\circ} 57' N.$ lat., and $79^{\circ} 30' W.$ lat., is built on a tongue of land extending a considerable distance out to sea, and gradually swelling out towards the middle. The principal streets extend across the little peninsula from sea to sea. The buildings are of stone, generally substantial, and the larger houses have courts or patios. It has a beautiful cathedral, five convents, and a college. The harbour is protected by a number of islands a little distance from the main-land, and there is good anchorage under all of them. The commerce consists in the exportation of the produce of the country to Lima and Guayaquil; and it also has intercourse with Jamaica, gold and silver being frequently sent by way of Panama to England. The population, which consists almost entirely of a mixed race, amounted in 1822 to 10,730. There is no place of any importance in the interior: east of Puerto Velo and Panama; the country is very thinly inhabited. Cruces, on the Chagres, with about 2000 inhabitants, who live in miserable huts, is the place where goods are put on board of boats to be brought down to Chagres: from Panama to Cruces they are conveyed on mules. Farther west is Chorrera, on the river of that name, which contains about 4000 inhabitants and carries on some trade; and Nata and Los Santos, each inhabited by about 4000 persons, and situated on the best-cultivated part of the isthmus of Panama.

The middle and most elevated portion of the isthmus contains, on the Caribbean Sea, the lagoon of Chiriqui, which has already been noticed, and the port of Matina (about $10^{\circ} 20' N.$ lat.), which latter may be considered as the harbour of Carthago in Costarica, and is sometimes visited by vessels from the West Indies. On the Pacific the harbour of *Punta de Arenas* is alone worthy of mention. It is situated on the eastern shores of the Gulf of Nicoya, and has good anchorage for vessels drawing not more than 9 or 10 feet of water: it is the harbour of S. José, the present capital of Costarica, which is about 73 miles distant, and exports, through Punta de Arenas, sugar, timber, and sometimes Indian corn, to Peru and Chile.

There are some considerable towns on the table-lands of the interior:

they occur either on the eastern portion, which forms the province of Veragua, which belongs to the department of Istmo, in the republic of New Granada, or on the north-western, which forms the republic of Costarica, a part of Central America. The most populous places in Veragua are *Santiago de Veragua*, the capital of the province, with 4568 inhabitants; *S. Francisco de la Montaña*, with 4387 inhabitants; *La Mesa*, with 4451 inhabitants; and *S. Jago de Alange*, near the lagoon of Chiriqui, with 2611 inhabitants. The towns of Costarica are more populous. The present capital, *S. José*, has a population of about 16,000 souls; and *Carthago*, its rival, is equally populous. Between *S. Jose* and the Punta de Arenas are *Villa Vieja*, with 11,000 inhabitants, and *Alajuela*, with 10,000. The two last-named places are situated on the western descent, and sugar is raised in their neighbourhood in abundance.

The Plain of Nicaragua has only one harbour on the Atlantic—that of *S. Juan del Norte*, 11° N. lat., and $83^{\circ} 48'$ W. long., situated on the western mouth of the Rio de St. Juan. It has a very good harbour, and is said to be healthy; but it is very little frequented, and is almost entirely uninhabited. Considerable quantities of hides and some indigo are sent to it from Granada and Nicaragua, and shipped to Jamaica. On the Pacific there are numerous harbours, three of which are especially worthy of notice:—*Colebra* or *Culebra*, is extensive, and has excellent anchorage, but it is not visited; *S. Juan del Sud* is small, but it is only 15 miles from the Lake of Nicaragua; *Realejo*, the only harbour which is frequented by ships, is situated in $21^{\circ} 30'$ N. lat., and $87^{\circ} 7'$ W. long. It is large, has safe anchorage, and exports the produce of the country, especially mahogany, cedar, and Nicaragua-wood, to Peru and Chile.

In the interior of the plain, east of the lake of Nicaragua, there is no considerable place, and hardly an agricultural settlement. All the towns are situated on the volcanic isthmus which divides the lake from the Pacific. *Leon*, the capital of the State of Nicaragua, was formerly a place of importance, with a population of 32,000 souls, which, however, has been reduced to less than half that number by civil commotions within its own walls. It is advantageously situated on a plain about 40 miles from Realejo, 10 from the ocean, and 15 from the Lake of Managua; it has a university, an hospital, and other public institutions. It carries on a considerable commerce through Realejo.

Managua, near the Lake of Managua, is a considerable place, with about 14,000 inhabitants, mostly whites, and has some commerce.

Masaya, a prettily-built town, not far from the Lake of Nicaragua, has about 14,000 inhabitants, nearly all of whom are Indians. It carries on an extensive trade in the produce of the country.

Granada has 14,000 inhabitants: it is on the banks of the lake of Nicaragua, and is the principal place from which the produce of the

country is sent to the harbour, S. Juan del Norte, by boats that navigate the lake and river, but its commerce has lately been on the decline.

Nicaragua, about three miles from the lake, contains 13,000 inhabitants, and, with the adjacent village of St. George, 22,000. It is in a very fertile district, where great quantities of cacao are raised, and where the vine bears twice and even three times in the year.

5. The western and greater portion of the Isthmus of Panama and Nicaragua belongs to the United States of Central America; the eastern and smaller part belongs to the republic of New Granada. The boundary-line between these republics lies between 82° and 83° W. long., beginning on the Caribbean Sea some miles west of the lagoon of Chiriqui, and terminating on the Pacific east of the Punta de Burica. The portion of the isthmus which belongs to New Granada forms nearly the whole of the department of Istmo, and that which belongs to the United States of Central America forms the whole of the State of Costarica, and the greatest part of Nicaragua also.

CENTRAL AMERICA.

1. *Situation, Extent, Area, and Boundary.* 2. *Surface, Rivers, Lakes, and Bays.* 3. *Climate and Productions.* 4. *Inhabitants and Population.* 5. *States, Harbours, and Towns.* 6. *Roads, Manufactures, and Commerce; Constitution, Finances, Army, and Navy.* 7. *History.*

1. CENTRAL AMERICA comprehends those countries which lie between the 8th and 18th parallels of N. lat., and between $82^{\circ} 30'$ and 94° W. long. Its two extremities may be about 800 miles distant, and its breadth varies from less than 100 to 270 miles—the latter width occurring between Cape Gracias à Dios, on the Caribbean Sea, and Punta Cosiguina, south of the Bay of Conchagua, near the volcano of that name.

The area was estimated by Humboldt in 1822 at 16,740 square leagues, or 125,550 square miles; but, as it appears from the charts published by the British Admiralty that the east coast south of Cape Gracias à Dios has been erroneously laid down more than $30'$ too far east, we are warranted in diminishing its area by about 12,000 square miles, which will make it about equal in surface to the British islands.

On the north it borders on the United States of Mexico and the British colony of Belize, and its south-eastern extremity touches the republic of New Granada; on all other sides it is enclosed by the ocean, eastward by the Caribbean Sea, and westward by the Pacific. Its exact limits, however, have not been exactly determined.

long, wide, and open valleys, separated by ridges of no great width, and generally rising with a gentle declivity. These fertile valleys are parallel to the coast and table-land, and open to the plains east of them. We are not acquainted with their elevation above the sea, but it is probably not great. These valleys cease at about $84^{\circ} 30'$ W. long., and are followed on the east by the plain of Mosquitos, which extends from the mouth of the Rio Tinto to Cape Gracias à Dios, and thence to the mouth of the Rio de S. Juan in Nicaragua. The interior of this plain is very little known, nor are we acquainted with the boundary-line between it and the table-land. The country along the shore is a complete flat, in many places without trees, but everywhere covered with fine grass. The shores have no harbours of sufficient depth for any but the smallest vessels. There is a number of lagoons of considerable extent, but they are too shallow to make good ports. The most considerable are Brewers and Caratasca Lagoons, west of Cape Gracias à Dios, and Guana, Wawa, Pearl, and Blewfields Lagoons, south of that cape. Caratasca Lagoon, which is the best known, is above 40 miles in length and 10 miles in width; it is divided from the sea by a low tract a few hundred yards wide.

The *Rivers* in this portion of Central America are very numerous, but comparatively small. Those which fall into the Pacific have only a short course, their sources being hardly more than 50 miles from that ocean. The largest is the Lempa, which rises on the western extremity of the table-land, and runs through one of the terraces from west to east, receiving in its course a river from the Lake of Guixa and the small river Aselhuate, which passes the town of S. Salvador. The Lempa afterwards turns south, and descends with a very rapid course to the Pacific. This river is not navigable, and has a bar at its mouth: its whole course probably does not exceed 100 miles. The Rio Choluteca, which falls into the Bay of Conchagua after draining a narrow valley, is still smaller.

The Patook is the largest of the rivers which enter the Caribbean Sea. In the upper part of its course it is called Guayape, and is said to bring down much gold from the hills. It rises near 88° W. long., and flows with numerous windings to the east, between $14^{\circ} 30'$ and 15° N. lat. as far as 85° W. long. Here it declines to the north-east, and falls into the Caribbean Sea between Cape Camaron and Caratasca Lagoon. About $86^{\circ} 30'$ W. long., there are some rapids called Los Chiflones, but from that point to its mouth the river is said to be navigable for large river barges, and still higher for canoes. Its whole course cannot be less than 300 miles.

North of the Patook and parallel to it runs the Rio Tinto, which, in its upper course is called Paon. It runs about 200 miles, and falls into the sea east of Cape Camaron, but its course is little known.

The Rio Wanks, or Rio de Segovia, rises towards the southern extre-

mity of the table-land, but the greater part of its course lies in the plain of Mosquitos, and is entirely unknown. It runs above 200 miles, and enters the sea near Cape Gracias à Dios. Blewfields River, which likewise appears to rise on the southern extremity of the table-land, and falls into the Mosquito Bay near 12° N. lat., is still less known.

Along the high and sometimes mountainous coast, between Cape Camaron and the innermost angle of the Bay of Honduras, are the mouths of several smaller rivers, of which the chief are the Rio de Lean, Rio Ulua, and Chamalecon, which are navigable to some extent for small river barges or piraguas, and the first and last for small schooners.

The largest *Lakes* occur on the terraces towards the Pacific. The lake of Guixa, near the boundary-line between the States of Salvador and Guatemala, is more than 20 miles long and 3 broad in the widest part: it is connected with another lake, that of Metapa, by a subterraneous channel. The waters of the Lake of Guixa are carried off by the Rio Guixa, a deep stream, which after a short and winding course falls into the Rio Lempa. The lake of Cogutepeque, about 8 or 9 miles long and 3 wide, lies between the towns of S. Salvador and S. Vicente, and might be used for facilitating the communication between them.

On the shores of the Pacific is the Bay of Conchagua, the entrance to which is about 30 miles wide and open to the south-west; but it branches off into various smaller bays, which in some parts extend 60 or 70 miles from its mouth; and in several places contain excellent anchorage. The bay contains some rocky islands and cliffs, and its shores are generally enclosed by high hills.

The Table-land of *Guatemala*, which is north-west of that of Honduras, is united to it by the *Isthmus of Chiquimula*. This isthmus may be considered as comprehending about 70 miles of coast on the Caribbean Sea, between the mouth of the Rio Motagua and the innermost corner of the Bay of Honduras, and as extending to Gualan and Chiquimula. Between the last-mentioned place and the town of Aquachapa the country seems to attain its greatest height, but even here it hardly can exceed 2000 feet above the sea. Measured across this isthmus the two oceans are about 150 miles apart. From this isthmus, which is traversed by the 89th meridian, the table-land of Guatemala extends to the Isthmus of Tehuantepec, which is traversed by the 95th meridian.

This Table-land rises rather rapidly at its eastern extremity; for the plain, on which the town of Guatemala is situated, and which is little more than 80 miles from the highest part of the isthmus of Chiquimula, is nearly 5000 feet above the level of the sea. Farther north the country still rises considerably, and to the north of the Rio Motagua it may generally exceed 6000 feet, except in a few narrow valleys, which are considerably lower than the plains. Where it approaches the Mexican State of Chiapa, the level begins to lower, but within the limits of Cen-

tral America it probably does not descend below 4000 feet above the sea. Here, too, as in all the table-lands of the Mexican Isthmus, the surface presents a succession of plains and hilly ridges, but the plains on this table-land are more extensive than farther east, and the hills rise to no great height above them. The surface of the plains themselves is slightly undulating; and they are generally covered with grass and bushes, while the hills are clothed with trees.

The south-west boundary of the table-land is strongly marked by a continuous steep descent towards the low tract which borders the Pacific. On the upper edge of this descent the hills rise higher than in the interior of the table-land, and their base constitutes the highest part of it, as it forms the watershed between the rivers running east and west. Mount Pacaya, near the Lake of Amatitan; the two volcanoes of Guatemala, called the Volcano de Agua and de Fuego, of which the former is 12,620 feet above the sea, and the latter perhaps still more; the mountains of Atitan, Quezaltenango, and Soconusco—the most elevated heights of this district, are volcanoes.

The low country between the Pacific and this high and rocky descent, which when seen from below has the appearance of an elevated mountain-range, is wider than that which separates the table-land of Honduras from the sea, varying in breadth between 30 and 50 miles. A thick forest covers all the plain, containing gigantic trees, some of them from 30 to 35 feet in circumference, and 80 or 90 feet in height; numerous creepers wind round their trunks to the height of 40 or 50 feet. These forests contain great natural wealth—mahogany, cedar, Brazil, guaiacum, Santa Maria, and other kinds of useful woods; together with vanilla, sarsaparilla, and various medicinal plants, in abundance: but, being nearly uninhabited, their rich products are at present of little use. The raising of cacao is the principal object of industry among the scanty population.

The eastern boundary of the table-land is not distinctly marked. Lowering as it proceeds eastward, the rivers which flow through it gradually run in deeper beds; and the plains are imperceptibly changed into hills and mountains, separated by deep and narrow valleys. It seems, however, that the boundary-line between this hilly country and the table-land may be considered as beginning on the banks of the Rio Motagua, some miles east of Chimalapan, and as running thence to Salama in a north-west direction; from this point it extends north, with a little inclination to the east, dividing the small rivers which fall into the Gulf of Honduras from those which form the Rio Usumasinta. From the sources of the river Belize the boundary extends westward to the falls of the Usumasinta and to the hills which skirt the western banks of that river; and there the country begins to decline towards the Isthmus of Tehuantepec.

The country between the sources of the Belize and the small rivers

which, running to the west, fall into the Usumasinta, is still very high; and the Lake of Peten may have an elevation of 4000 or 5000 feet. From this district the table-land continues northward, through the Peninsula of Yucatan, but it is much reduced in width, measuring only from 60 to 70 miles across. This tongue of high ground sinks lower as it advances farther north, and terminates towards the extremity of the peninsula in hills of moderate elevation.

The country west of this tongue of table-land is noticed in the description of Mexico, to which it belongs; and that to the east of it under Belize. That part of Central America which lies between the table-land and the innermost corner of the Bay of Honduras, and which includes the greatest part of the Isthmus of Chiquimula, presents a succession of hills and valleys. The hills often rise to the height of mountains, and the valleys are generally narrow and deep, but both are clothed with trees and with a luxuriant and vigorous vegetation, due to the combination of great heat and moisture; which, however, makes this country very unhealthy.

The *Rivers* which fall into the Pacific are numerous, but have a short course, rising on the mountainous edge of the table-land, and descending to the low country with falls and rapids. The chief river is the Michatoyat, which flows from the Lake of Amatitan, and forms at its mouth the harbour of Istapa or Independencia.

The Motagua is the largest river that falls into the Bay of Honduras. It rises at the foot of the western edge of the table-land, near 15° N. lat., and flows nearly due east, forming numerous rapids and falls, especially where it descends from the table-land. At Gualan, about 100 miles from its mouth, it becomes navigable for river boats drawing from 1 to 1½ foot of water; and the heavier articles are thus conveyed to or brought from the harbour of Omoa, situated on the Gulf of Honduras, about 20 miles from its mouth. The latter part of its course is north-north-east. It probably runs near 300 miles. There is a heavy surf on its bar, which boats cannot pass without danger.

The Polochic, which rises on the eastern portion of the table-land, becomes navigable immediately after its descent at the Embarcadero de Teleman, and is at all seasons deep enough for vessels drawing several feet of water; but the bar at its mouth has only from 3 to 4 feet of water. This river enters the Golfo Dulce.

The Golfo Dulce is a fresh-water lake, about 30 miles long by 20 wide. The shores are thickly wooded, and rise gradually into a spacious verdant amphitheatre, except on its western side, where a level and marshy plain extends from 10 to 12 miles inland. The gulf has sufficient depth of water for schooners about half a mile from the shore.

The Rio Dulce, by which the lake enters the Bay of Honduras, is about 20 miles in length, half of which is occupied by a smaller lake, called Golfetta, about 10 miles long. The river has a considerable

depth, except on its bar, which can only be passed by vessels drawing from 6 to 7 feet of water. Its course is rather rapid, and its banks high and extremely picturesque. Most European commodities enter Central America by this river.

The *Usumasinta* is the largest of the rivers of Central America. If we take the *Chicsoi* for its principal branch, it rises in the centre of the table-land, at no great distance from the banks of the *Motagua*. After a course of nearly 100 miles it is joined on the right by the *Rio de la Pasion*, its principal branch, which rises farther east, and about 70 miles from the shores of the Gulf of Honduras. Its course is west, to its junction with the *Chicsoi*, for nearly 100 miles. The united river, called *Usumasinta*, flows about 50 miles more on the table-land, from which it descends with considerable cataracts. Some miles below the cataracts are the ruins of *Palenque*, near the banks of the river; but these ruins are in the republic of *Chiapa*, belonging to the United States of Mexico, in which country the *Usumasinta* runs upwards of 150 miles more towards the north-west. In this part of its course it is joined by two considerable tributaries, the *Tulija* and *Tabasco*. Below the cataracts it is navigable for boats of considerable burden. It falls under the name of *Rio Tabasco*, into the Bay of *Campeachy*, where its principal branch forms the port of *Victoria*. The bar at its mouth is passed by merchant-vessels, which sail up to *S. Juan Bautista*, on the *Tabasco* river.

On the table-land are the *Lakes* of *Peten*, *Atitan*, and *Amatitan*. The Lake of *Peten*, at no great distance from the sources of the river *Belize*, is of an oval form, and is about 70 miles in circuit. It contains several islands, consisting of high rocks. Its waters have no outlet. The Lake of *Atitan*, at the foot of the western edge of the table-land, near 15° N. lat., is about 20 or 22 miles long and 10 wide, and of great depth: it has no outlet. On its western bank is the volcano of *Atitan*, which devastated the surrounding country by the eruption of 1827. The Lake of *Amatitan*, situated west of the town of *Guatemala*, is about 8 or 9 miles long and 3 wide. It is the origin of the river *Michatoyat*.

What is commonly called the *Gulf of Honduras* is only the north-west portion of the Caribbean Sea, which is situated between the shores of Honduras and the peninsula of Yucatan. At the innermost angle, however, of the gulf there is a bay, called the Bay of Honduras, which is the only part of the sea surrounding Central America by which the merchandise of Europe enters that country. The three chief rivers of the republic, the *Rio Dulce*, the *Motagua*, and the *Chamalecon*, enter this bay; which also contains the ports of *Omoa* and of *Isabal*. It is divided into several smaller bays, of which that of *S. Thomas* is spacious and deep. This bay lies between the embouchures of the *Rio Dulce* and of the *Motagua*, and is an excellent harbour, but not yet frequented by ships.

3. The whole of *Central America* is situated between the tropics but, as a considerable portion of the surface, perhaps not less than one-fourth, rises to a great elevation above the sea, the degree of heat and cold is very different even in districts not very remote from one another. A person who at daybreak leaves the summit of the Volcano de Agua, and travels westward, may by noon arrive at the village of Esquintla, when he will find that he has exchanged a temperature of from 28° to 30° for one ranging between 80° and 86° .

No portion even of the table-land can be called cold. It freezes in November, December, and January, during the night, but only very slightly on the highest part of it, on both sides of 15° N. lat. At Guatemala, which may be considered as having the mean height of the table-land (4961 feet), the dry season begins towards the close of the month of October, and lasts till the end of May, during which time only a few showers occasionally refresh the parched ground. In the beginning of June thunder-storms become frequent, and are followed by long and heavy rains. But even in this season, from six o'clock in the morning till three or four in the afternoon, the sky is generally without clouds, and the air pure and refreshing. About the middle of October the north winds begin to blow, and then the rains cease; but at their departure, as well as on their arrival, they are accompanied by thunder and slight shocks of earthquake. In March and April the thermometer sometimes rises to 86° , but it usually ranges between 74° and 82° in the middle of the day. In December and January, when the north wind sometimes blow with great force, the thermometer varies between 65° and 72° . During the summer heat it rises at seven o'clock in the morning only to between 60° and 67° , and in the evening at the same hour to 67° and 68° : in winter it falls in the morning to 58° and 60° , and sometimes even to 56° , but in the evening only to between 60° and 64° . Towards the end of the dry season the trees shed their leaves, and in many places vegetation appears entirely suspended. This portion of the country is very healthy; though *goutte* is frequent, especially among the mixed races, and is attended by weakness of intellect, and even complete idiotcy.

The seasons of the low coast bordering on the Pacific are as regular as those of the table-land, and they fall in the same months of the year; but the degree of heat is much greater. We are, however, only acquainted with a few detached observations on this point; according to which it would seem that the difference amounts to between 15° and 16° . Nevertheless, it is said that these shores are very healthy although they are almost entirely covered with forest.

The countries between the table-lands and the Caribbean Sea are as hot as the west coast, but the seasons are much less regular, and the quantity of rain which falls is much greater. The rainy season lasts nine months in the neighbourhood of the table-land, but nearer th

may be said that no part of the year is free from rain. This difficulty is probably to be ascribed to the circumstance that the north winds which are prevalent during the greatest part of the dry season, on these tracts the moisture which they bring from the Gulf of Mexico. Though the rains are generally not heavy, and contribute to these countries extremely fertile, the continual moisture of the air here produces various diseases, and especially malignant fevers. Earthquakes are extremely frequent; indeed, as we have already remarked, they are generally felt every year at the change of the seasons. The shocks are not strong, and cause very little damage; but sometimes their effects are terrific, and they have destroyed considerable towns, thus, in 1773, Old Guatemala was overthrown. Perhaps no part of Central America is entirely exempt from this calamity; but earthquakes are more frequent and most destructive along the south-west coast, the table-lands, and especially in the vicinity of the volcanoes. The climate of Central America being so various, the productions are diversified. On the higher part of the table-land the grains usually wheat and barley), the fruits, and the vegetables of Europe are raised; a large quantity of Indian corn is also raised, which however yields only one crop in the year; and in some parts rice is grown. The most common fruits are apples, pears, peaches, apricots, grapes, oranges; there are also melons, beans, kidney-beans, peas, bar- or Spanish peas, lentils, as well as potatoes, turnips, cabbages, pumpkins. In this district there are also plantations of *maguey*, a plant from which a spirituous liquor called pulque is extracted; the leaves of the plant are used like hemp for yarn and ropes. In the lower and warmer districts the common grain is Indian corn, which yields annually two or three very abundant crops; there are also plantations of sugar-cane, bananas, and mandioca. Among the most common are pine-apples, cocoa-nuts, sapotes, jacks, and an *ayona*. Sweet potatoes are raised in abundance. It is in this district principally that those productions are raised which are the articles of export—indigo, cochineal, tobacco, and cotton. Indigo is chiefly planted on the terraces between the highest part of the coast of Honduras and the Pacific; in the State of Salvador, in the neighbourhood of S. Vicente and S. Miguel: in other districts it is not attended to. Cochineal is chiefly gathered on the table-land of Guatemala, which in elevation approaches nearest to that of Oaxaca, Mexico, the only two places in the world where this insect is obtained in great quantities; but this branch of industry seems on the decrease. Wool of excellent quantity is raised in several districts; but, as goat has the monopoly of this article, its culture is very limited, and the quantity exported is small. Cotton is raised in nearly all the parts, especially towards the Pacific, but it is not cultivated with much attention.

Cacao once formed an important article of export. That of Soconusco, the most western district of the State of Guatemala, lying between the Pacific and the Mexican State of Chiapa, was thought the best in the world, and the Spanish court kept it for its exclusive use ; but this branch of agriculture has, for reasons not yet explained, fallen into such neglect, that the cacao now raised in Central America is not sufficient for the domestic consumption, and a considerable quantity is annually imported from Guayaquil. Sugar is raised in many parts, but not much more than is required for the home consumption ; small quantities are exported to Peru. Coffee is not used in this country, and there are only a few plantations, the produce of which is consumed by the foreigners residing in Central America.

The forests which cover such an immense portion of the lower districts produce mahogany, pimento, sarsaparilla, vanilla, and the black balsam, commonly called Peruvian balsam, from having been brought to Europe by the way of Peru. But this balsam is only found on the coast of the Pacific, in the State of Salvador, where great quantities are collected, and a still larger supply might be procured. Some other drugs, gums, and several kinds of precious woods, are abundant in the forests. The Brazil or Nicaragua wood is so abundant on the banks of the Rio Tepitapa, that it is used as fire-wood. The great expense of bringing it to the coast prevents it from coming into the market.

Cattle is the principal wealth in some very extensive districts, especially in Honduras and on the eastern banks of the Lake of Nicaragua, where there are estates that feed from 20,000 to 30,000 head. Horses and mules are bred in the other districts, especially mules, which are used for the transport of merchandise. Sheep are numerous on the highest portion of the table-land, where the wool finds a ready sale in the neighbouring manufacturing towns. Hogs abound in the lower districts.

Besides the wild animals common to other countries of America, Central America produces the manati, which is found at the mouth of the Rio Juan, the winged squirrel, and swarms of quadrumana, from the most diminutive to the largest size. Among the birds the most remarkable are humming-birds of great beauty ; the quezal, whose feathers are of a bright emerald green ; the guaiamaya, or great macaw, which is clothed in scarlet and gold ; the raxon, a small bird, with plumage of purple and green ; the wild peacock, and others scarcely less beautiful. The carrion-vulture, which is seen perching upon almost every house, performs the part of a scavenger, and maintains some degree of cleanliness. Serpents are numerous, and some of them are venomous. The iguana is common. Fish are abundant in the rivers, lakes, and in both seas : the most considerable fishery is on the Pacific, whence dried fish is sent to the interior. The purple-shell, as well as the pearl and pearl-shells in the Bay of Nicoya, have already been noticed.

Gold, silver, iron, lead, and mercury are known to exist, but no mines are worked except those of gold, silver, and iron. The most important mines of gold and silver are in Costarica, at del Aquacate, and in Honduras, in Mount Merendon between Chiquimula and the northern shores, near Olancho and at del Corpus, on the boundary of Nicaragua; also at Tabanco, not far from the Bay of Conchagua. The iron-mines which are worked are situated near Sta. Anna in Salvador, whence 7500 tons were formerly extracted annually, but now hardly one-third of that quantity is produced. In Honduras jasper and marble are worked. Brimstone is collected near the volcano of Quezaltenango. There are many salt springs, and salt is procured on the banks of some rivers, as well as on the shores of the Pacific, in large quantities, so as to constitute an article of commerce with some neighbouring countries.

4. The *Inhabitants* of Central America consist of three classes—whites or creoles, mestizos or the offspring of whites and Indians, and aboriginal natives. In the State of Guatemala the Indian inhabitants form the great bulk of the population; in Costarica the whites are most numerous; and in the three other States the mestizos, mixed with a few mulattoes, prevail. Haefkens, estimating the whole population at one million and a half, supposed it to be distributed as follows:—

$\frac{1}{3}$ of whites	.	.	.	125,000
$\frac{4}{7}$ of mixed races	.	.	.	500,000
$\frac{2}{7}$ of Indians	.	.	.	875,000

1,500,000

The whites may still be considered in some respects as the nobility of the country. They occupy nearly all the offices and dignities in the States. In their manners they do not materially differ from the Spaniards. The tradespeople of the country are principally of the mixed races, called here Ladinos, and they evince much talent for the mechanical arts, especially in imitating articles brought from Europe. Many of them can read and write, and there is a good deal of emulation between them and the whites.

The Indians live only on the table-land of Guatemala, where at the time of the arrival of the Spaniards two comparatively powerful kingdoms existed, that of the Quiches and Katchekils. Agriculture had then extended over these districts, and the Europeans added a few new branches to those already in existence, which were adopted by the Indians, who remained in possession of the soil, and still form the mass of the agricultural population. As far as our information goes, their condition seems to be little inferior to that of the peasantry in most countries of the European continent; and it is certainly superior to that of the bondsmen of Hungary and Russia. Near the towns they speak Spanish, but they have also their own languages, which differ considerably from one another. The Quiche and Katchekil languages are spoken

by a larger population than any others. Some persons suppose that the Indian population of Guatemala is on the decrease; but this opinion seems not to rest on well-ascertained facts.

In the other portions of Central America, when the Spaniards arrived there, agriculture was not so well established, and there was no property in the land. The Indians, accordingly, after some slight struggle abandoned to the Spaniards those districts which the latter wished to occupy, and retreated to others of which the Spaniards did not covet the possession. Thus a large portion of Central America remained and still is in possession of independent tribes. They occupy the whole eastern coast from the Lagoon of Chiriqui in Veragua, as far as the mouth of the Rio Tinto and Cape Camaron, throughout the whole extent of which there are hardly more than two places occupied or garrisoned by whites; these are the harbour of Matina in Costarica, and the fortress of S. Juan del Norte. In Costarica the territories of the independent tribes probably do not extend more than 12 or 20 miles inland, but in Nicaragua and in Honduras they advance nearly to the great lake. These countries, which probably contain more than 20,000 square miles, are possessed by a great number of tribes. The Mosquitos, who occupy the country between Cape Gracias à Dios and the Rio Tinto, about the Lagoon of Caratasca, formerly maintained a close intercourse with the English, who had made settlements on this coast near the mouth of the Rio Tinto, for the cultivation of sugar, coffee, and cotton. The negroes, whom the English brought over for this purpose, intermixed with the Mosquitos, and hence has arisen a considerable population of a mixed breed. Since their establishment at Belize, the English have abandoned these settlements, but the chiefs of the Mosquitos still consider themselves under the protection of the British; and their kings have sometimes been crowned at Belize. It seems that the Mosquitos partly owe to this connexion their superiority over the neighbouring tribes, of which the Poyers and Towkcas are dependent on them, though they are said to be more numerous.

At the northern extremity of Central America, about the Lake of Peten, there are also independent tribes; but they occupy only a small extent of country, and are few in number.

In Central America the population is very unequally distributed. In Guatemala the greatest population is found on the highest portions of the table-land, and in the other States along the shores of the Pacific. In Honduras the population is principally in the middle of the country, on the banks of the Guayape and Chamalecon; on the coast there are only a few small villages, situated at great distances from one another.

5. The UNITED STATES of Central America consist of five States or Republics—Costarica, Nicaragua, Honduras, Salvador, and Guatemala.

1. *Costarica*, the most southern State, contains about 100,000 inhabitants, and comprehends the greater part of the mountain-region of the Isthmus of Nicaragua, under which head its harbours and towns have been already noticed.

2. *Nicaragua*, with about 200,000 inhabitants, comprehends the greater part of the plain of Nicaragua, and a small part of the table-land of Honduras. The harbours and towns of the plain-country have been noticed in the description of the Isthmus of Nicaragua. On the table-land is the town of New Segovia, a small place, in the neighbourhood of which excellent tobacco is grown.

3. *Honduras*, with about 300,000 inhabitants, comprehends the greatest part of the table-land of Honduras, and all the countries between it and the Caribbean sea. On the south it extends to the Bay of Conchagua. The greatest number of mines, and the most productive, are within this State, which is also rich in cattle. The harbours on the Caribbean Sea are Truxillo and Omoa; and on the Bay of Conchagua, Seba. The inland-towns are Comayagua and Tegucigalpa.

Truxillo is an open bay, which contains a roadstead. Mahogany is cut in the neighbourhood, and is almost the only article of export. The town, with the adjacent hamlets, contains about 4000 inhabitants.

Omoa, in $15^{\circ} 38' N.$ lat., and $88^{\circ} 20' W.$ long., has a small bay, forming a good harbour, by which most of the European goods destined for Guatemala and St. Salvador are imported. It is an unhealthy place, and chiefly inhabited by a few mulattoes.

Seba, near the mouth of the Rio Choluteca, is a small port on the Bay of Conchagua, by which the produce of the mines of Tabanco is exported.

Valladolid de Comayagua, the capital of the State, is situated nearly in its centre, between two rivers, in a fine valley, with 3000 inhabitants. It is an unhealthy place.

Tegucigalpa, situated on the higher portion of the table-land, is the most populous place in the State, containing from 8000 to 10,000 inhabitants. In its neighbourhood are mines of gold, silver, copper, and iron.

4. *Salvador*, the smallest (but the most populous in proportion to its extent) of the States of Central America, contains about 300,000 inhabitants, and extends over the terraces by which the table-land of Honduras descends to the Pacific. It produces nearly all the articles which are exported to Europe, especially indigo, and has good iron-mines. Along the shores the black balsam is collected.

The State has only one harbour, that of Union, or Conchagua, situated on the gulf of the same name: this harbour is spacious and safe, and may be considered as the port of S. Miguel, which lies farther west. Between the Gulf of Conchagua and the port of Acapulco there is no harbour on the coast of the Pacific, and trading-vessels are obliged

to anchor in open roadsteads. The roadsteads resorted to in this State are Libertad, where the goods destined for S. Salvador are unshipped, and Acajutla, the port of Sonsonate.

Nearly in the centre of this State is the *Federal District*, with the capital of the Union, called S. Salvador, which contains above 16,000 inhabitants. This town is not remarkable for its buildings, but the inhabitants are industrious, and have manufactures of iron and cotton. It is situated between fine hills, on a small river called Aselhaute. The Federal District lies around the town in a circle, with a radius of about 11 miles, except towards the Pacific, where it extends to the harbour of Libertad, about 26 miles distant. The volcano of S. Salvador is within the Federal District.

S. Vicente, the capital of the State of Salvador, contains about 8000 inhabitants. In its neighbourhood are the most extensive plantations of indigo and tobacco, the latter on the declivity of the volcano of St. Vicente.

St. Miguel, with 8000 inhabitants, is noted, for its fairs, the most important of which is held in the month of November, after the indigo crop—that article being raised in great quantities in its neighbourhood. The town is unhealthy, especially in the beginning of the dry season.

Sacatecoluca is a considerable place in the low country which borders the Pacific, with 8000 inhabitants. A considerable quantity of indigo is raised in the neighbourhood.

Sonsonate, about 12 miles from the roadstead of Acajutla, is a considerable place, with 10,000 inhabitants, who make and export fancy shell-work to the amount of 10,000*l.* per annum. In its neighbourhood much sugar is grown, and it is from this place alone, in Central America, that sugar is exported. The sugar goes to Peru. Near the town is the volcano Izalco.

Aguachapa, with 8000 inhabitants, is in a country in which much sugar is cultivated. In the neighbourhood there is a spouting hot-spring.

Sta. Anna has 10,000 inhabitants. In the neighbourhood there are extensive plantations of indigo and of the sugar-cane. The best sugar in the country is made here. In the mountains near the town are rich iron-mines, which are worked.

Metapa, near the Lake of Metapa, has 8000 inhabitants; and iron-mines in the neighbourhood.

5. *Guatemala*, the largest of the States of Central America, contains 600,000 inhabitants, and includes the whole of the Table-land of Guatemala, as far as it belongs to Central America, together with the country between it and the Gulf of Honduras and the coast on the Pacific skirting the table-land. On the coast of the Pacific is the district of Soconusco, once noted for its cacao. Cochineal, mahogany, sarsaparilla, pimento, and a small quantity of vanilla, are the exports of this State.

On the Pacific is the roadstead of Istapa, or Independencia, at the mouth of the Rio Michatoyat: the embouchure of the river forms a harbour, very difficult of access, and rarely visited. The port of Izabal, situated on the Golfo Dulce, is reached by means of the Rio Dulce. No vessels drawing more than from 6 to 7 feet of water can enter the river; nevertheless, a large part of the goods brought from Europe enter Central America by this way. Izabal itself is a small place, containing hardly more than 100 inhabitants, and is very unhealthy.

New Guatemala, the capital of the State, is situated on an undulating plain 4961 feet above the sea. The houses are large and convenient, but only one story high, and with thick walls; the streets are broad, straight, and partly paved. The public buildings are numerous, and consist of a university, five convents, four nunneries, a cathedral, four parish-churches, the treasury, the mint, and other government offices; most of them are in a good style of architecture, and some of them judiciously decorated. The great hospital, called S. Juan de Dios, can receive 400 patients. Water is brought, by an aqueduct, from a spring about five miles from the town, and conducted into twelve public reservoirs, from which it is distributed to the private houses. A fine bust of Jenner adorns one of the principal fountains. The population of New Guatemala, including some adjacent places, amounts to 40,000 souls.

Old Guatemala (La Antigua) is situated in a narrow valley between the two volcanoes called Del Agua and Del Fuego, 5817 feet above the sea. Till 1773 it was the capital of the country, but in that year it was destroyed by repeated earthquakes. New Guatemala was then built, and the seat of government transferred to it. A considerable number of inhabitants however remained at Old Guatemala, the population of which now exceeds 12,000. A great part of the town is filled with ruins, but it still contains some fine buildings. It has also some cotton-manufactories. Few places in the world are more picturesque than the country about Old Guatemala. The volcano del Agua is 12,620 feet above the sea, and the volcano del Fuego still higher.

Totonicapán contains 12,000 inhabitants, nearly all aborigines; they make considerable quantities of earthenware, wooden utensils, and woollen cloth.

Quezaltenango contains 14,000 inhabitants, and has considerable woollen and cotton manufactures. In its neighbourhood is a volcano and a hot spouting spring, the waters of which rise to the height of 20 or 30 feet.

Cobán, in an undulating and very pleasant valley, contains 14,000 inhabitants, nearly all of whom are aborigines, who are much more wealthy in this town than in any other part of the country. The valley is exceedingly fertile, and covered with plantations of sugar-cane, bananas, and pimento-trees, and various kinds of fruit-trees.

Salamà, with 5000 inhabitants, is situated on the road between Guatemala and the Embarcadero de Teleman on the Polochic.

Gualàn, a small town, containing only 2000 inhabitants, on the Rio Motagua, is the place where the goods which ascend the river are laden, and those intended for European markets are embarked.

The State of Guatemala contains many large villages, some of which have a very considerable population. All these villages are situated on the table-land.

6. The roads are generally bad, being little more than uneven paths, except in some parts of the coast along the Pacific, as between S. Miguel and Sacateluca, where a carriage-road exists. The rivers, which intersect these roads, must be forded, as there are no bridges, except a few hanging bridges made of creepers. The use of mules, both for travelling and the transport of goods, is general.

Manufacturing industry is not entirely wanting. In many places earthenware is made; and, on the higher portion of the table-land of Guatemala, in the towns of Quezaltenango and Totonicapàn, as well as in Old Guatemala, there are manufactures of cotton and wool. The introduction of English cotton and woollen goods has, however, somewhat diminished this branch of industry. The *chamarras*, a kind of black cloaks, which are used by the Indians as well as all persons of mixed breed, are only made in these towns, and never brought from foreign countries. The cotton cloth is coarse, but strong, and the Indians prefer it to all others. It is supposed that the annual value of the woollen and cotton goods made in the State of Guatemala and exported to the other States does not fall short of 40,000*l*.

It is not easy to form a just notion of the extent of the commerce of Central America for want of accurate information. It seems, however, to be much more considerable than is commonly supposed, which may be owing to the circumstance that the chief exports are made from the coast of the Pacific. According to an estimate made by Haefkens, the annual exports of the State of Nicaragua, before the civil commotions, amounted to upwards of 100,000*l*., though some articles were left out of the account. The indigo crop may be estimated at an annual average amount of 900,000 lbs. or 1,000,000 lbs., and that of cochineal at 100,000 lbs. If order is permanently established, Central America cannot fail to rise to a high degree of prosperity.

Gold and silver are among the most considerable articles of export. In 15 years, from 1796 to 1810, the mint of Guatemala coined 283 marks (each of 12 ounces) of gold, and 253,560 marks of silver. In the following 15 years, from 1811 to 1825, the same mint issued to the amount of 1525 marks of gold and 438,881 marks of silver. But since that time this amount has greatly decreased in consequence of the increase in the exportation of the precious metals by smuggling, as it is supposed.

The Constitution of the United States of Central America (Estados Federados, or Republica federal de Centro-America) is modelled on that of the United States of North America. Every State is independent of the rest, and the decision of the congress is binding on all the States only in certain determinate cases. The congress consists of a president, a Senate, and a house of representatives. The Senate is composed of 10 members; every State electing two. The house of representatives consists of 46 members, every 30,000 inhabitants being entitled, according to the Federal constitution, to choose a representative. Slavery has been abolished. The Roman Catholic is the religion of the States, but the exercise of every other religion is permitted, except in Salvador, where, according to a law of the State, the Roman Catholic religion alone can be publicly professed.

The revenue of the Federal government amounts, according to a rough estimate of Haefkens, to about 681,359 Spanish dollars; and the annual expenses, according to the budget of 1825, to 652,608 Spanish dollars; in the latter, the expenses of the army and navy are stated as 469,524 Spanish dollars. The debt contracted in England is $7\frac{1}{2}$ millions of dollars; besides which the government of Central America has a debt contracted in the country, during the Spanish dominion, which amounts to $2\frac{1}{2}$ millions of dollars.

The revenues of each State, according to Haefkens, are as follow:—

Guatemala	. . . . .	100,000
Salvador	. . . . .	100,000
Nicaragua	. . . . .	60,000
Honduras and Costarica	. . . . .	70,000

330,000 Sp. dollars.

The same author thinks, that the effective force of the army may consist of about 8000 men; but some reductions have taken place since the termination of the civil war. We are not informed whether there is any navy.

(History.) Columbus, in his third voyage, in 1502, discovered the whole coast from Cape Gracias à Dios on the north, to the harbour of Porto Velo on the south. The first Spanish settlement on the American continent was formed by Nuñez de Balboa, in 1510, at Santa Maria, on the Isthmus of Darien, near 9° N. lat.; but, on account of the unhealthiness of the place, it was abandoned in 1513, and transferred, by Pedrarias, to Panama, on the shores of the Pacific. From this place the Spaniards carried their discoveries northward, whilst Cortes conquered Mexico between 1519 and 1521. When Cortes had accomplished this great enterprise, he sent one of his most distinguished officers, Pedro Alvarado, in 1523, to effect the conquest of Central America, which was accomplished in two years; but the Spaniards never succeeded in subjecting the Indian tribes which inhabit the low country

that extends along the Caribbean Sea, from Cape Camaron to the Lagoon of Chiriqui. Central America remained subject to Spain till 1821; but the proceedings of the Spanish Cortes in 1820 gave rise to the declaration of independence in 1821. For a short time Central America was united to the Mexican empire of Iturbide, but in 1823 it recovered its independence and formed a constitution. It seems, however, that the present government is not adapted to the condition of the nation. Since its establishment the country has been the theatre of continued civil wars, in which much blood has been shed.

Juarros's *History of Guatemala*; Dunn's *Voyage to Guatemala*; Roberts's *Voyages and Excursions on the East Coast and in the Interior of Central America*; Haefkens's *Central Amerika*; Galindo, in the 'London Geographical Journal,' Vols. III. and IV.

BELIZE.

1. *Situation and Extent—Surface and Soil—Rivers—Climate—Productions.* 2. *Inhabitants and Population—Towns—Commerce—History and Government.*

1. BELIZE, a British colony, is situated on the eastern coast of the peninsula of Yucatan, between $15^{\circ} 54'$ and $18^{\circ} 30'$ N. lat., and 88° and 90° W. long. On the east it is washed by the Gulf of Honduras, on the north it borders on the State of Yucatan, and on the west and south on that of Guatemala. It is separated from Yucatan by the Rio Hondo, and along its southern boundary runs the river Sarstoon, which falls into the innermost recess of the Gulf of Honduras, not more than twenty miles west of the mouth of the Rio Dulce. The western boundary-line has not yet been exactly fixed, but it is supposed that it lies near $89^{\circ} 50'$ W. long. It, therefore, extends about 170 miles from north to south, and 100 miles from east to west, and covers a surface of more than 16,000 square miles, or nearly three times the area of Jamaica, or twice that of Wales.

The shores are beset with numerous small islands of coral rocks called keys, most of which are not more than a mile in circumference. They are covered with cocoa-nut trees and bushes, and resorted to by the fishermen to take turtle. The largest are Ambergrease Key towards the north, and Turneff, opposite the town of Belize. These two keys consist of clusters of several small islands divided by narrow creeks and lagoons. A smaller key, called St. George's, is resorted to by the rich merchants of Belize, who have country-houses there. These small islands are so numerous as to render the navigation along this coast very difficult and dangerous. The shores of the continent are rocky

but low, except towards the south, where they are rather high. The river Belize, which runs east-north-east, divides the country into two nearly equal portions differing in character. To the north of the river the low country extends from the sea about ten or twelve miles inland, where it begins to rise into moderate hills, which grow higher as they recede farther from the sea. The greatest part of the low country is occupied by swamps, which are partially covered with stagnant waters nearly the whole year round, and during the rains are completely covered. The higher grounds farther inland have a sandy soil, and are chiefly overgrown with different kinds of pine, which supplies excellent timber. The wide valleys which intersect these high lands have a very fertile soil, and are covered with various species of tropical trees. South of the river Belize, the low country is thickly wooded, but it does not extend more than from three to six miles inland, and is backed by mountains of considerable elevation, rising with a rather steep ascent. The highest of these mountains, called Coxcomb Mountains, lie south of 17° N. lat., and are estimated to be about 4000 feet above the sea-level. The country at the back of these mountains has a very broken surface, but is covered with interminable forests of the finest trees; the soil seems to be very fertile.

The rivers are navigable from twenty to thirty miles from their mouths, but higher up they contain numerous eddies, rapids, and falls. They are much used for floating down mahogany, dye-wood, and timber. The most remarkable rivers are, from north to south, the Rio Hondo, the New River, the Belize, and the Siboon. The last-mentioned river drains the broken country at the back of the mountains, and its banks contain the most extensive forests of mahogany trees. The Belize, which is the largest river, probably runs nearly 150 miles.

The climate is very favourable to vegetation, as it abounds both in heat and moisture, and yet Belize is considered more healthy than any of the West India islands, and the yellow fever has never appeared here. The mean annual temperature is 80° , but it is seldom oppressive, as, from the beginning of July to the beginning of April, the air is refreshed by sea-breezes. From April to July is the dry season, during which the heat is excessive, but it is from time to time mitigated by tremendous thunder-storms. During the remainder of the year rains are frequent, but not continuous; the most rainy months are July, August, and September. In the beginning of October the north winds commence, and generally continue with little variation to February or March, when the weather is extremely variable. In the space of a few hours the thermometer sometimes undergoes a depression of 15 degrees. Whilst these winds last, the mornings and evenings are cold.

Belize is very rich in vegetable productions. Sugar, coffee, cotton, and indigo might be cultivated, but hitherto their culture has been neglected. Arrow-root and rice are grown to a small extent. Plan-

tains, yams, mandioca, and maize, are cultivated as food. The most common fruits are oranges, lemons, limes, shadocks, mangoes, guavas, cashew-nuts, tamarinds, avocado-pears, pomegranates, wild plantains and grapes. Melons are extensively cultivated, and also a few vegetables on a small scale. The cabbage-tree abounds in the forests, which contain many trees useful as timber or for cabinet-work, as cedar, pine, pines, iron-wood-trees, silk-cotton-trees, &c. Some of them supply articles of exportation, as dye-woods, especially log-wood, fustic, and braillito; the last-mentioned grows only on the keys. The most important of the forest-trees is the mahogany-tree. Sarsaparilla is collected in the southern districts. Wild animals and birds are abundant, such as ounces, panthers, tapirs, deer, antelopes, peccaries and warrens (small animals of the hog kind), cavies, agoutis, armadillos, opossums and raccoons; monkeys are numerous, and some of them are eaten. Manatees and alligators are met with in the lagoons along the coast. Among the numerous birds are turkeys, spoon-birds, toucans, Muscovy ducks, two species of macaws, and many kinds of parrots, pelicans, and humming-birds. Fish are plentiful and of various kinds; some are very large. Fish and turtle are used as substitutes for meat: of the latter there are three species. Lobsters and shell-fish are abundant and excellent. Cattle, sheep, and goats are kept, but not sufficient for the consumption. Cattle in considerable numbers are imported from Truxillo and Omoa. Gold has been found in one of the affluents of the Belize river, but no other metal is known to exist.

2. The amount of the population is not exactly known. Some years ago it was estimated at about 6000 souls, and it may now amount to 10,000. The population is chiefly composed of negroes, who were brought to this country as slaves, but many of them obtained their liberty long ago, and worked at daily wages. The number of whites perhaps does not exceed 400. There seem to be no aboriginal tribes within the territories of Belize. The whites are exclusively occupied with commerce, and the negroes with cutting mahogany and dye-woods, and with fishing. A few of them cultivate small patches of ground.

Belize, the only town of this colony, is built on both sides of the mouth of the river of the same name, which is crossed by a wooden bridge. It consists of a long street running along the sea-shore, from which three or four smaller streets branch off. The houses are constructed entirely of wood, and are raised eight or ten feet from the ground on pillars of mahogany; they are well built, spacious and convenient. The population, in 1833, amounted to 4537 individuals. In front of the town there is excellent anchorage for vessels of moderate size, and the surface of the sea is rarely agitated by winds, as it is protected by the numerous keys from the heavy swells of the open sea.

Up to the year 1823 the commerce of Belize was not considerable, the exports consisting almost entirely of the wood cut in the forests, and

tortoise-shell. In 1824, 5,573,819 cubic feet of mahogany, 4391 tons of logwood, 2493 tons of fustic, and 4579 lbs. of tortoise-shell were exported. But since Mexico and Central America have obtained their independence, an active commerce has been carried on with the last-mentioned country; that with Yucatan, however, is limited. In 1833 the exports consisted of 2200 serons* of indigo, 1200 serons of cochineal, and 730 bales of sarsaparilla, all which articles were brought from Central America. At the same time the exportation of the products of the country had decreased; only about 4,500,000 cubic feet of mahogany, and 1800 tons of logwood were exported in 1833. Belize is now the port of British manufactured goods and foreign merchandise designed for the consumption of Central America, which are forwarded thence to Balal and Omoa. The imports as well as the exports are estimated to amount to between 400,000*l.* and 500,000*l.*, and 9000 tons of British shipping are employed in this trade.

The first settlement of Belize is uncertain. It was first visited by smugglers from Jamaica, who found it a very convenient retreat, on account of the difficulty and danger which large vessels encounter in navigating a sea containing so many small islands, and the remoteness of the Spanish settlements. The smugglers soon began to find a lucrative employment in cutting logwood and fustic. The Spanish government tried several times to expel them, but without effect until 1754, when they succeeded in breaking up the colony. By the peace of Paris (1763) British logwood cutters were permitted to return to their former station, but they were forbidden to erect fortifications. In 1779 the English were again expelled, but the colony was restored to them in 1783, with permission to extend their cutting of mahogany to the valley of the Siboon river, but they abandoned their settlements on the coast of Mosquitos. In 1798 the Spaniards again attacked the colony, but without success. Since that time the colonists have extended their settlement to the banks of the rivers Rio Hondo on the north, and the Sarsaparilla river on the south, and this coast with the adjacent country is now considered to belong to the British by the right of conquest.

The colony is governed by a superintendent, nominated by the Crown. Seven magistrates, annually elected by the inhabitants, form a court of justice, and act as a council, at which the superintendent presides. There is also a legislative body, consisting of all the inhabitants of property, but their measures can only obtain the force of law by the consent of the superintendent.

Henderson's *Account of the British Settlement of Honduras*; Dunn's *Voyage to Guatemala*; Haefkens's *Central Amerika*.

* A seron is a hide sewed up, and containing about 200 lbs. weight.

MEXICO.

1. *Position, Limits, Extent, Area.* 2. *Physical Description of the Countries South of 24° N. lat.; Western Declivity of the Table-land of Guatemala; Isthmus of Tehuantepec, and Table-lands of Anahuac.* 3. *Description of the Countries between 24° and 32° N. lat., Cinaloa and Sonora; plain of Chihuàhua; Bolson de Mapimi; Eastern Lowland; Plain dividing the Mexican Isthmus from the main body of America.* 4. *Climate and Productions.* 5. *Inhabitants and Population.* 6. *Political Divisions, Harbours, Towns, and other Localities.* 7. *Roads, Canals, Manufactures, and Commerce.* 8. *Constitution, Finances, Army and Navy.*

1. THE *United States of Mexico* lie between 15° and 42° 30' N. lat., the most southern point being near the Puerto de Sacrificios (15° 48' N. lat.) and the most northern about 2° N. of Cape Mendocino. The most eastern point is the low shore on the western side of the peninsula of Yucatan, near the island of Cankun, which extends to near 86° 48' W. long.; and the most western point is Cape Mendocino, in 124° 40' W. long.

On the west and south Mexico is bounded by the Pacific Ocean; and on the east by the Gulf of Mexico. Its south-eastern angle borders on Central America and the British settlement of Belize. Between Mexico and Central America the boundary-line is not yet exactly determined. It begins on the Pacific near the volcano of Soconusco and runs in a waving line over the western declivity of the table-land of Guatemala to the Rio Usumasinta; it then follows the western edge of the elevated region in the interior of Yucatan, traverses that region somewhat south of 18° N. lat. till it joins the Rio Hondo, which river as far as its mouth is considered as the boundary between Mexico and Belize.

On the north, and partly on the east, Mexico borders on the United States of North America. The boundary-line between these two Federal States begins on the Pacific (42° N. lat.) and runs along that parallel to the Rocky Mountains; on the east of which range it follows the course of the Arkansas river to the 100th meridian, along which it extends south to the Red River. The last-mentioned river forms the boundary as far as 94° W. long., and then the line runs due south to the River Sabina, and along that river to its mouth.

From the boundary of Guatemala to 42° 30' N. lat., Mexico is about 2,400 miles in length. Its breadth varies greatly. At the Isthmus of Tehuantepec, where it is narrowest, it measures hardly more than 130 miles across. Its greatest width is near 32° N. lat., where it extends about 630 miles from the Rio Sabina to S. Diego in Upper California.

Humboldt estimated the area of Mexico at 118,478 French square leagues, or nearly 920,000 square miles; but in that estimate immense tracts of country, lying to the north, between the coast of the Pacific and the boundary of the United States of North America, as now determined by treaty, were not included. The area of these tracts will probably not be overrated, if we estimate it at 300,000 square miles. The territories of Mexico have also been increased by the separation of the State of Chiapa from Central America, and its accession to the Mexican confederation. Estimating the surface of this State at 38,000 square miles, the whole area of Mexico will be about 1,258,000 square miles, or about fifteen times that of Great Britain.

2. The western declivity of the table-land of Guatemala differs considerably in the peninsula of Yucatan, and in the main-land. In the peninsula, the high ground which occupies its central part lowers gradually as it advances to the north. Its south extremity, where it belongs to Mexico, probably does not rise much above 3,000 feet, and the heights sink to a few hundred feet as we approach Cape Catoche. They occupy only a small portion of the peninsula, being skirted on the west by an extensive plain, which towards the north advances perhaps as much as 100 miles inland, but not so far towards the south. The surface of this plain is so sandy and arid, that from the Bay of Campeche to Cape Catoche, not a single spring of fresh water occurs. But to the south of Cape Catoche, on the eastern side of the peninsula, as well as south of the Rio Francisco, near Campeche, to the mouth of the Rio Usumasinta, the country is undulating, and even hilly; except on the very shores, the soil is less sandy, and the country mostly covered with high forest trees, among which is the Campeche wood. This woody country extends southward to the Isthmus of Tehuantepec.

South of Yucatan lies the western declivity of the Table-land of Guatemala, the higher parts of which extend in spacious plains, commonly without trees; but the wide and fertile valleys by which the descent is furrowed are well wooded, and rich in all the productions of the torrid zone. The low and level ground, by which it is separated from the Pacific, is hardly more than 20 or 30 miles wide, and is covered with lofty trees.

The principal river in this part of Mexico is the *Rio Tabasco*, whose two great branches, the Usumasinta and Grijalva, rise on the table-land of Guatemala. The Usumasinta, whose upper course has been already noticed, in descending from the table-land, after entering Mexico, forms a considerable cataract, which stops the navigation farther upwards. Lower down, the river is joined by the Chacamas, from the left, which is navigable for canoes to some distance. Still farther down, it receives the Teliga, and afterwards the river begins to divide into several arms, of which the western and most considerable is joined not far from its mouth by the Rio Grijalva. The Rio Grijalva

rises on the highest part of the table-land of Guatemala, north of the town of Totonicapan, and runs first north-west and then for a considerable distance due west. Having approached the shores of the Pacific within about 50 miles, the Grizalva suddenly turns to the north, and then, after passing the parallel of 17° , to the north-east, in which direction it continues, with many windings, until its junction, about 20 miles from its mouth, with the Usumasinta. The united river is called Tabasco. The Rio Tabasco is navigable for ships of small burthen to the town of S. Juan Bautista, and for large river barges still higher up; but we are not informed where this navigation terminates. Its whole course is equal to that of the Usumasinta, being upwards of 350 miles.

The Isthmus of Tehuantepec is contiguous to the table-land on the west. It extends between the two seas about 130 miles, between 16° and 18° N. lat., on both sides of 94° W. long., beginning on the south in the Laguna de Teresa, and terminating at the mouth of the Rio Huasteco. At its southern extremity, along the Pacific, the plain of Tehuantepec extends inland 10 miles from the shore. This plain is rather fertile, and towards the hills it is covered with trees. Beyond it is a hilly tract, which extends to about 17° N. lat., and somewhat farther north. The several chains of hills which extend east and west, and form the connecting link between the table-lands of Guatemala and Anahuac, do not exceed 2000 feet in height in their highest ridge, the Cerro Pelado; but they render the surface of the whole country very irregular. More than half of the isthmus is a level and low plain, which extends from 50 to 60 miles east and west, and nearly the same distance south and north. In its southern districts it is covered with a continuous forest; towards the Gulf of Mexico the woods are intermingled with extensive marshy tracts.

The small extent of hilly ground on this isthmus has suggested the plan of an easy communication between the two seas, by a road; and in fact goods are actually sometimes conveyed across the isthmus from the Pacific to the Gulf of Mexico. The transport is much facilitated by two rivers, flowing in the direction of the isthmus, which (though not of great extent) are navigable for small barges to a considerable distance. The *Rio Chimalapa*, which flows into the Pacific, rises on the edge of the table-land of Guatemala, and at first runs westward; but at the village of S. Miguel de Chimalapa it turns south, in which direction it continues to its mouth in the Laguna de Teresa. It is navigable as far as S. Miguel, but the bar of S. Francisco, at the outlet of the Laguna de S. Teresa, is extremely shallow, and sea-vessels cannot pass it. The neighbouring harbour of La Ventosa or Tehuantepec is an open roadstead, though it affords good anchorage at some distance from the shore.

The *Huasteco*, or *Guasteco* is formed by numerous rivers which

descend from the edges of both contiguous table-lands; but all of them, in the upper parts of their course, are full of rapids and cataracts, and the navigation is extremely difficult and dangerous. The Guasacualco becomes navigable below the junction of the small river Saravia, where the valleys widen; and soon afterwards it enters the low plain. In the remainder of its course, which lies nearly due north and south, it is navigable for large barges; but it has a bar at its mouth, with little water upon it.

The table-land of *Anahuac*, the most extensive of the table-lands of North America, occupies nearly the whole of that continent from the Isthmus of Tehuantepec to 24° N. lat. A line drawn from the mouth of the Rio de Santander, which falls into the Gulf of Mexico, westward to the Sierra de Madre, south of the town of Durango, may be considered as separating the table-land of Anahuac from the Plain of Chihuahua. The continuation of this line from the Sierra Madre to the Port of Mazatlan on the Pacific, divides the table-land from the low Plain of Cinaloa.

On the side of the Pacific the table-land of Anahuac approaches very near the sea. In some places the high mountain masses advance to the very shores; in others a narrow level tract intervenes; but the table-land is divided from the Gulf of Mexico by a low plain, which extends from 40 to 80 miles inland.

This low plain, called the Plain of *Cuetlachtlan*, is level along the sea, but at about 10 miles from the shore it begins to be undulating, and rises gradually towards the base of the mountain-masses. The level tract has an arid sandy soil, nearly without vegetation, but in the undulating districts the full vigour of tropical vegetation is developed. The sandy coast is without harbours, if the mouths of the rivers Alvarado, Panuco, and Santander are excepted. It is also skirted by a series of sandy hills, between 25 and 40 feet high, which, during the strong northern winds, change their form and place. Behind these hills, and partly between them, are extensive swamps, whose exhalations during the hot season render the low shore, and even the lower part of the undulating country, very unhealthy, and the seat of continual yellow fever. To the north of 21° the coast is lined with a series of narrow low sandy islands, of great length, which are divided from it by arms of the sea, called *lagunas*. These lagunas are sometimes 20 miles across, as the Laguna of Tamiagua, and, on the other hand, are often only 2 or 3 miles wide. Some of them have no communication with the sea, or at least not such a one as permits small vessels to enter them; this is the case with the Great Laguna of Tamiagua. Others have outlets into the sea, and are generally navigable for boats in their full extent.

Where the Plain of Cuetlachtlan approaches the Isthmus of Tehuantepec, a range of hills, proceeding from the table-land, is interposed

between them. This range is called *Sierra de S. Martin*, and at its eastern extremity, about 12 miles from the shore, there is a small volcano called *Volcano de Tuxtla*, which had a great eruption in 1793.

The plain contiguous to the *Sierra de S. Martin* is traversed by a great number of small rivers, which rise partly on the declivity of the table-land and partly on the hills of the range. They unite before they enter the sea, and form the *Rio Alvarado*, which has a bar at its mouth, only practicable for vessels which draw not more than seven or eight feet of water.

The surface of the table-land of *Anahuac*, which is reached from the Plain of *Cuetlachtlan* by a very rapid ascent, consists of a considerable number of plains with a level or undulating surface. These plains are generally of considerable extent, measuring in length from 40 to 200 miles and more; and in width from 20 to 100 miles. These plains are separated from each other by ranges of hills, which rise to 500 or 600 feet above their level; but the plains themselves vary in their elevation, the most extensive being from 5000 to 9000 feet above the sea-level, whilst some smaller ones are much lower.

On these plains some isolated mountains rise to a stupendous height; they are arranged nearly in a straight line, due east and west, and near to the 19th parallel. On the eastern edge of the table-land, and contiguous to the Plain of *Cuetlachtlan*, stands the *Cilaltepétl*, or *Pic de Orizaba*, the summit of which is 17,373 feet above the sea, and the *Nauhcampatepetl*, or *Cofre de Perote*, which is 13,415 feet high. These two summits are about 30 miles distant from each other, north and south. There are two other summits where the 19th parallel is cut by $98^{\circ} 10'$ W. lon., the *Popocatepetl*, which rises to 17,884 feet, and is perhaps the highest mountain of North America; and to the north of it the *Iztaccihuatl*, which is 15,704 feet high. Still farther west is the *Nevado de Toluca*, which attains the height of 15,271 feet. In the country bordering on the Pacific is the *Pic de Tancitaro*, 10,509 feet high, and not far from it the volcano of *Colima*, 9,193 feet above the sea. Only four of these summits rise above the point of perpetual congelation, which in Mexico is 15,000 feet above the sea. Although nearly all these mountains show evident signs of volcanic origin, only three of them are at present in a state of activity—the *Cilaltepétl*, the *Popocatepetl*, and the *Volcano of Colima*. But in the year 1759 a new volcano appeared on one of the lower plains towards the Pacific, near the *Pic de Tancitaro*: it is called the *Volcano of Jorillo*, and its height is 1,681 feet above the plain, and 4,114 feet above the sea.

The highest portion of the table-land of *Anahuac* is contiguous to the series of isolated peaks above mentioned. At the western base of the *Cilaltepétl* and of the *Nauhcampatepetl*, begins the table-land of *Tlascala*, which is above 70 miles wide, and more than 100 long; its surface is

about 7200 feet above the sea. Contiguous to it on the west is the Plain of Mexico, or *Tenochtitlan*, which is about 7500 feet above the sea, nearly 50 miles long and more than 20 wide. Farther west is the highest portion of the table-land, the Plain of *Toluca*, which attains an average height of nearly 9000 feet. It is succeeded on the west by the table-land of *Michoacan*, the surface of which varies between 6000 and 6500 feet, and is intersected by several high hills and isolated ridges. It is about 100 miles long and nearly as wide. A lower tract separates it from the Pacific: the surface of this lower tract is in some places hilly, and it may be about 30 miles across.

That portion of the table-land which spreads from the Plains of *Tlascala* and *Mexico*, south and south-east, and which, as far as the Isthmus of Tehuantepec, is called the table-land of *Mixtecapan*, appears not to rise more than 5000 feet on an average. Towards the Pacific, however, it is indented by wide valleys which extend nearly north and south, and open towards the sea; but even these valleys are of considerable height. The town of Oaxaca, which lies in the principal valley, is 4800 feet above the sea, and the adjacent higher ground on which the ruins of the Palace of Mitla are found, is 5300 feet high. But as we proceed along the sea to the N. W. and approach the harbour of Acapulco, the table-land is broken by deep valleys, which extend east and west. The level of these valleys declines as they approach the Pacific, and at the same time they become narrower. The road from Mexico to Acapulco passes through four of them. The valley of Istla, nearest to the plain of Tenochtitlan, is 3226 feet, the valley of Mescala 1696 feet, that of Papagallo 627, and that of Peregrino, nearest the Pacific, is 525 feet above the level of the sea.

It is certain that there is no continuous range of high mountains on the southern portion of the table-land, unless the ridges of hills which separate the plains from one another, and which generally rise 500 or 600 feet, and in some isolated peaks even to 1000 feet and more above the adjacent plains, are to be considered such. But about 20° N. lat., on the boundary-line between the States of Querétaro and Mexico, the isolated heights that skirt the eastern edge of the table-land assume the form of a continuous range, which is called *Sierra Madre*. This range runs across the table-land in a west-north-west direction to the town of S. Felipe, and thence north-west to the south of Durango. Here the chain, which so far has no great width, becomes broader, extends along the eastern boundary of the Plain of Chihuahua, in a north-north-west direction, dividing that extensive plain from the low country of Cinaloa and the mountain-district of Sonora, until it terminates at the Presidio de S. Bernardino, near the parallel of 32° N. with the mountain de las Espuelas. The elevation of this range has not been determined in any part, but it rises to a considerable elevation east of the town of Durango where several mines, situated in valleys, are from 8000 to 9000 feet

above the sea-level. No mountain-ridge connects the Sierra Madre with the Rocky Mountains of North America.

The country between 20° and 24° N. lat. contains three elevated plains, those of *Querétaro*, *S. Luis de Potosí*, and *Xalisco*. The two last mentioned are contiguous to the range of the Sierra Madre, that of Querétaro extending on the north, and S. Luis de Potosí on the north. The level of both plains is about 6500 feet above the sea, but that of Querétaro lowers somewhat towards the west. It contains a very fertile district called the *Bajío*, which extends to a considerable distance along the banks of the *Rio de Santiago*. Along the eastern boundary of the table-land of S. Luis de Potosí, and just where the descent to the low coast along the Gulf of Mexico begins, there is a continuous range of mountains rising about 2000 feet above the elevated plain, and about 5000 feet above the sea. This range is called the Mountains of *Catorce* from the rich mines of that place which are situated towards its northern extremity.

The table-land of Querétaro extends westward to about $101^{\circ} 40'$ W. long., where it is succeeded by a hilly tract, in which the country sinks considerably in that direction; for the table-land of Xalisco, which extends westward to the very shores of the Pacific, probably has only an elevation of from 3000 to 4000 feet above the sea-level. Though many level plains of considerable extent occur in this part of Mexico, its surface is more diversified by hills, groups of hills, deep depressions, and valleys than the other table-lands.

The table-land of Anahuac is in general of moderate fertility. In many places the surface consists of bare rocks, in others of a hard clay. Where there is any vegetable mould it is usually very dry, and contains great portions of the carbonate of soda and nitrate of potash. The aridity of the soil may partly be ascribed to the great elevation of the table-land, where evaporation is much more rapid than in low countries, and partly to the volcanic nature of the rocks which compose the mountain-mass, and whose numerous eruptions shroud the mountain. The plains are in general entirely destitute of trees, and none occur except in the valleys which separate the ranges of hills from each other. There are no rivers taken, but they are shallow, and their water generally contains more salt than any streams and springs are very rare.

The dryness of the atmosphere and the aridity of the soil account for the fact of the table-land of Anahuac being nearly destitute of rivers: the few streams that do exist are only navigable for a short distance from the sea, they descend from great heights in a comparatively short course, and are very shallow. The most considerable is the *Rio Santiago*, called also *Rio de San Juan*, and by the aborigines *Thauichin*, which rises in the small *Sierra de Toluca*, to the east of the volcano of *Toluca*, and near its source is called *Rio de Toluca*. Where it traverses the plains of Toluca and Querétaro, running in a south-west direction, it is generally deep and not

rapid, but it does not appear that it is navigated in these parts. It gradually turns to the west, and descends by a rapid course to the Plain of Xalisco, where it passes through the extensive Lake of Chapala. After issuing from that lake it forms, at the Puente del Rio Grande, in the space of about three miles, between 50 and 60 falls of various heights, down which the great mass of water rushes with incredible velocity. A rapid course prevents an easy navigation lower down. At its mouth it forms an æstuary, which contains some islands; on its southern shores is the port of S. Blas. The whole course of the river is considerably above 400 miles.

The *Rio Panuco* may be considered as rising on the table-land of Tenochtitlan, as the waters which are carried by the canal of Huehuetoca from the lake of Zumpango constitute the most remote supply by which it is fed. In its upper course the current is very swift, and frequently interrupted by shoals and rapids, and the river is navigable for boats only in a few places. In the upper part it is called *Moctezuma*. It becomes navigable for boats at Tanquichi, about 170 miles from its mouth. Ten miles lower down it is joined by the *Rio Tamoin*, which flows from the west, and it is then called the *Rio Panuco*. So far its course is to the east of north. It then turns east, and passes the town of Panuco, which is 80 miles from its mouth. Vessels drawing not more than 12 feet water may go up to this place. The lower part of its course is very winding, and it enters the Gulf of Mexico, after an entire course of about 400 miles, at the port of Tampico. The port of Tampico is formed by its mouth, but is crossed by a bar, which has generally not more than 12 feet water.

The *Lakes* are very numerous, and occasionally occupy a considerable portion of the plains; thus one-tenth of the plain of Tenochtitlan is covered by the four large lakes of Zumpango, Christoval, Tezcuco, and Chalco. The largest lake is that of Chapala, which is on the plain of Xalisco, and is traversed by the *Rio Santiago*. It is about 90 miles long, and from 12 to 18 miles wide.

3. That portion of the Mexican Isthmus which lies between 24° and 32° N. lat., contains four different regions: the Western Coast, the Sierra Madre, the Elevated Plain of Chihuáhua, and the Eastern Lowlands.

The *Western Coast*, which occupies the eastern shores of the Gulf of California up to its innermost recess, comprehends two tracts of different character. The southern portion, as far north as the *Rio Yagui*, or 28° N. lat., is a plain with a level surface, and of no considerable elevation above the sea. The soil is a sandy clay, of considerable fertility, but destitute of trees. The beds of the rivers are many feet below the surface of the plain, and are skirted by rich bottoms. The climate is regular, and the rains last about three months from the end of June to that of September. The country between the

Rio Yagui and 32° N. lat. is composed of successive ranges of high hills, which are separated from each other by very deep and narrow valleys, lying in a general north and south direction, with a slight declination to the west. In some places this hilly country extends nearly to the sea. This is particularly the case on the northern banks of the Rio Yagui. In other places it is separated from the shores by extensive plains. These plains are most extensive towards the northern extremity of the Gulf of California, where they are low, and covered with only small bushes. They are separated from the sea by a series of sand-hills, about 20 feet in height, and about 50 yards from the beach. These northern plains are uninhabited. Though this country has a great number of streams rising in the mountains to the east and north, its soil is not more fertile than that of the table-land of Anahuac. This may partly be attributed to the shortness of the rainy season, and the comparatively small quantity of rain, and partly to the nature of the soil itself, which in most places is sandy, and in others consists of a hard clay, which requires constant irrigation to answer the purposes of agriculture.

The most important river of this region is the *Yagui*, or *Rio de Sonora*, which rises to the north of the parallel of 32° , at the most northern extremity of the Sierra Madre, and in the upper part of its course is increased by a great number of small streams. Its course, between 32° and 30° N. lat., is nearly due north and south; it then declines to the south-west, receiving in that part of its course the Rio de Oposura. Having passed 28° N. lat., it turns to the west, and descends to the Gulf of California. Its whole course, probably, is not less than 400 miles. It does not appear that this river is navigated; but in many parts it is used for watering the contiguous cultivated lands.

The *Sierra Madre*, which on the table-lands has not the appearance of a high mountain-range, presents an imposing appearance when viewed from the Plain of Cinaloa, from which it rises with a very steep ascent to more than 10,000 feet; but towards the north it grows much lower. It probably covers a surface of not less than 100 miles in width, which space is partly occupied by deep longitudinal valleys, and partly by the eastern descent, which is gentle, and composed of several terraces, which are separated from one another by sloping ground diversified by hills.

The Plain of *Chihudhua*, which extends along the eastern base of the Sierra Madre, may be considered as a continuation of the table-land of S. Luis de Potosi, not being separated from it by a range of mountains or any other marked boundary-line, except that the northern part of the table-land of Potosi (between 23° and 24° N. lat.) gradually assumes that aspect of sterility which characterises the Plain of Chihuáhua. This plain extends in length from south-south-east to north-north-west more than 600 miles, and is terminated on the north

by a line drawn from the Presidio de S. Bernardino to the Paso del Norte, near the parallel of 32° . Its width varies from 150 to 200 miles. At its southern extremity, where it is contiguous to the table-land of S. Luis de Potosi, it may be nearly 6000 feet above the sea-level; but it lowers towards the north. This immense tract of country may be compared with some of the steppes of Asia. We do not know its elevation above the sea, but Humboldt estimates that of the country along the banks of the Rio del Norte at about 2000 feet, an estimate which appears rather too low than too high. But towards the south the country certainly rises to a much greater height, a fact which is shown by the course of the rivers, which here run in the opposite direction to those of Sonora—namely, from south to north. The surface of this plain is nearly level. The soil is strongly impregnated with nitre, muriate of soda, and carbonate of potash. It is entirely destitute of trees, except along the watercourses, which are skirted by poplars. In the rainy season it is covered with grass, which affords pasture for sheep; in the dry season it is without verdure, except along the rivers. Some portions are covered with small sharp stones. In those districts which are at some distance from the rivers, there are numerous dry salt-lakes, from which large quantities of salt are collected by the inhabitants. These salt lakes render the country excessively unhealthy; for whenever there is any wind, the air is filled with saline particles and dust, which oppress respiration and cause numerous diseases. The rivers, along which alone the cultivated tracts occur, run in beds several feet under the surface of the plain, and all terminate (with the exception of the Rio Conchos) in lakes without outlets, like those in the steppes of Asia. The most remarkable are the Rio de las Casas Grandes, the Conchos, and the Rio Grande.

The *Rio de Las Casas Grandes* rises in the Sierra Madre, in about 30° N. lat., and runs due north upwards of 100 miles, terminating in the Lake of Guzmán, near 32° N. lat. The most southern branches of the Rio Conchos originate south of 27° N. lat., on the eastern declivity of the Sierra Madre, whence the river flows due north, being increased in its course by numerous tributaries from the west, but not by a single one from the east. After a course of about 300 miles, it falls into the Rio Grande del Norte, nearly opposite the Presidio del Norte. The valley of this river is the most populous and best cultivated part of the Plain of Chihuahua. The Rio Grande of the Plain, which is different from the Rio Grande del Norte, rises in the Sierra Madre, west of the town of Zacatecas, in about $23\frac{1}{2}^{\circ}$ N. lat. It runs at first north-east, as far as the place where it descends into the plain, through which it winds in a north direction, terminating in the Lake of Parrus, about 27° N. lat. Its valley also is well cultivated, and contains extensive orchards.

The north-eastern part of the Plain of Chihuahua is occupied by a mountain region, at least towards its northern extremity, which is called

the *Bolson de Mapimi*. We are very little acquainted with this tract. It seems to terminate on the north on the banks of the Rio del Norte, where that river bends first to the east and then to the north ($29\frac{1}{2}^{\circ}$ N. lat.), and then stretches thence in a south-eastern direction, and nearly parallel with the lower course of the Rio del Norte, to 26° N. lat., where it terminates with the high masses which contain the mines of Salinas and Pesquoria, a short distance north of Monterey. The mountains of Salinas and Pesquoria attain an elevation of more than 10,000 feet above the sea-level; but they are probably the highest in the range. Between 27° and 28° N. lat., the mountains do not seem to be much elevated above the level of the Plain of Chihuáhua.

Neither the Bolson de Mapimi nor the Plain of Chihuáhua approaches the Gulf of Mexico. A low country intervenes, which may be considered as a continuation of the low plain of Cuetzlachtlan. Its width, as far as we know, varies between 60 and 120 miles. It is partly covered with wood, but contains also extensive savannahs or prairies covered with grass. Along the beach is a low sandy tract, which in many parts is swampy, and near the shores is skirted by sand-hills. The natural advantages of this country are neglected, through the want of good harbours. Along the shore and parallel to it there is a series of long low islands, from about $\frac{1}{2}$ to 1 mile in width and from 1 to 10 miles from the beach. Some of these islands are 50 miles in length. The few inlets, by which the lagunes which separate the islands from the main land communicate with the sea, are shallow. This is the case with the lagunes themselves, which can only be navigated by small vessels.

The main land of *North America* is separated from the *Mexican Isthmus* by a plain, which, in nearly its whole extent, is still a desert. It begins on the west, at the innermost angle of the Gulf of California, 32° N. lat., and stretches from that point eastward, nearly following that parallel, on both sides of the Rio Gila, an affluent of the Colorado, until it terminates on the banks of the Rio del Norte, north of the Paso del Norte, between 32° and 34° N. lat. and in 106° W. long. At this eastern extremity a tract of arid hills of moderate elevation, called *Sierra del Florido*, borders on the river. It is probable that this arid tract of country rises without interruption from the mouth of the river Colorado eastward, and that at 108° W. lat., where it appears to attain its highest elevation, it is not less than 4000 feet above the sea: this high and apparently hilly tract forms the connecting link between the Sierra Madre of the Mexican Isthmus and the Sierra de Magallon, the most southern extremity of the Rocky Mountains in North America. This plain is very little known; those who have traversed it in nine days, from the mouth of the Rio Gila to the Presidio de Altar in Sonora, describe it as a sandy and nearly uninhabitable country, and do not confirm the general opinion, that it was the residence of numerous and powerful aboriginal tribes.

The boundary line between the Mexican Isthmus and the continent of North America, east of 106° W. lat., follows the course of the river Rio del Norte, all the countries north of that river being more or less connected with the range of the Rocky Mountains. This range is, as we have already observed, separated from the Sierra Madre by a plain of 140 miles in width, but its most eastern branch, the *Sierra del Sagramento*, which fills up the bend of the Rio del Norte, between 103° and 105° W. lat., is only separated by the valley of the river from the mountain-tract of the Bolson de Mapimi, and at this place the high lands of North America approach nearest to those of the Mexican Isthmus.

The countries belonging to the Mexican Confederation occupy a considerable part of North America, but none of the States which constitute the Mexican Union are situated on the continent of North America, with the exception of Texas, an appendage of the State of Coahuila. The natural features of this part of Mexico are described under North America.

4. Few countries present so great a variety of *climate* as Mexico; a circumstance partly due to the great extent of the country, which extends between the parallels of 16° and $42^{\circ} 30'$ N. lat., and partly to the great inequality of its surface, the lowest tracts being hardly a few feet above the sea, while the plains of the table-land rise to 8000, and even 9000 feet above that level.

About one-third of the country, or nearly 400,000 square miles, is situated within the tropics; of the remainder, the most northern point is nearly 26° beyond the tropic. Some portions, therefore, are subject to the tropical rains, and others to the extra-tropical rains, and there is a belt of country which does not partake of either of them.

The rains which fall south of the tropic occur in the summer season, beginning in the month of June, and terminating in September; they are very abundant, but more so on the low sea-coast than on the table-land of Anahuac. The quantity of rain which annually falls at Vera Cruz is estimated at 78 or 80 inches; in the month of July alone, from 15 to 16 inches fall; while, in November and December respectively, the quantity hardly exceeds one inch. On the table-land the rain is less abundant, but still very considerable.

The tropical rains extend beyond the tropic, but they are there less abundant, and fall later. On the plain of Chihuahua and the mountain-region of Sonora the rainy season begins early in September, and lasts to the end of October, and sometimes to the middle of November. The annual quantity of rain is vaguely estimated at 15 or 16 inches. Near 30° N. lat. the rainy season continues a month or six weeks, and the quantity that falls is still less. In the plain of the Rio Gila (32° N. lat.), which is in the zone of country that divides the tropical rains from the extra-tropical, no rain falls. To this circumstance may be attributed the great sterility of this region.

It is remarkable that the rains cease much farther to the south on the peninsula of California than on the main land. Annual rains occur only to the south of Loreto ($25^{\circ} 30'$), and they are generally scanty. At Loreto itself the rains return after a period of five or six years, and fall abundantly, but only for a short time.

The extra-tropical rains fall in winter, from November to the middle of February, and are nearly confined to this part of the year. In the other months very little rain is known to fall, except in a few places; and this exception is owing to local circumstances.

The heat is still more unequally distributed over Mexico. The country is divided into *tierras calientes*, hot countries; *tierras templadas*, moderate countries; and *tierras frias*, or cold countries. The first term is applied to the low coasts, the second to the districts from 4500 to 6000 feet above the sea, and the last to those which exceed in elevation 6000 feet above the sea. The *tierras frias* comprehend more than two-thirds of the surface south of the tropic; the *tierras calientes*, perhaps one-sixth; and the *tierras templadas*, still less.

At Vera Cruz, on the eastern coast, the mean annual temperature is 77° : the greatest heat prevails during the rains; and, a short time before they begin, the thermometer then usually rising to 81° and 82° ; in December and January it falls to about 72° , which on an average it does not exceed during those months. But during the prevalence of the north winds, which frequently blow from October to March, and often with great violence, the thermometer occasionally sinks to 62° , and even 60° .

To these winds must be mainly attributed the fact that the least temperature is much lower on the eastern than on the western coasts. At Acapulco, which is about 3° farther south on the Pacific, the thermometer ranges in summer between 86° and 96° , and in winter between 78° and 86° , during the day. In winter, during the greatest part of the night, it stands between 74° and 78° ; but, from 3 o'clock in the morning till sunrise, it suddenly descends to 65° , and even 62° .

On the *tierras frias* of the table-land the degree of heat and cold varies still less than on the coasts. The climate resembles an eternal spring; the thermometer generally varying only 10° or 12° . The mean annual temperature at the town of Mexico is 62° . The greatest heat is experienced in the months immediately preceding the rains, in April and May, when the thermometer often rises to 67° or 68° . The evaporation which takes place on these elevated tracts during the season of the rains diminishes the heat, and lowers the thermometer 3° or 4° . The mean temperature of the winter is 56° ; and sometimes, though rarely, the thermometer descends to the freezing point, and a small quantity of snow falls. This last phenomenon is also observed at Valladolid, which is several hundred feet lower. Humboldt compares the climate of this portion of the table-land with that of Naples. On the

hest of these table-lands, that of Toluca, the mean annual temperature is considerably below 60° ; frost is common in the cold season, and lasts for several weeks. At Zacatecas, situated near the tropic, and more than 8000 feet above the sea, it freezes very hard during the months of December and January; and the thermometer sometimes descends as low as 12° .

As to the climate of the countries north of the table-land of Anahuac, our information is very imperfect. In Sonora the thermometer ranges between 80° and 90° , or even 100° . At Pitic (29° N. lat.) it froze, in the winter of 1829-30, every night for nearly two months; and the thermometer sometimes sunk to 18° . The plain of Chihuahua seems to be exposed to a great deal of cold from October to April, during which time the prevailing north winds bring down the cold air from the plains of North America; but the short summer seems to be very hot.

Mexico is much less subject to earthquakes than Central America and the countries of South America contiguous to the Andes. They are, indeed, frequent along the shores of the Pacific, and in the country about the capital; but they do not occasion such dreadful devastation as in Venezuela, Peru, or Chile. Humboldt thinks that, in Mexico, the range of volcanic agency is confined between 18° and 22° N. lat.

As the natural divisions of Mexico differ considerably both in soil and in climate, the objects of agriculture in each of them must also show considerable variations. In some districts the attention of the agriculturists is especially directed to the raising of those plants which constitute the principal food of the inhabitants of countries between the tropics; in others they attend more particularly to the cultivation of the different kinds of grain common to the countries of the temperate zone.

The soil of Mexico is very dry, but in most districts by no means barren; and, where water is not wanting for the purpose of irrigation, it is very fertile. Irrigation is practised to a great extent, even for the cultivation of wheat, especially on that portion of the table-land of Querétaro which is contiguous to the Rio Santiago.

In the hotter parts of Mexico bananas and mandioca are principally raised. The banana only succeeds in those districts whose mean temperature is above 75° , and its cultivation is consequently confined to the low tracts on the coasts south of 22° N. lat. In some districts it is dried in the sun, and in this state forms an article of internal commerce, under the name of *plantano pasado*.

The cultivation of the mandioca is somewhat more extended, but it is not carried on in those parts of the country which are more than 3000 feet above the sea. The cultivation of this vegetable, on the shores of the Gulf of Mexico, extends to the mouth of the Rio Santander, and, on the side of the Pacific, to that of S. Blas.

Indian corn is cultivated nearly all over the country: it grows very well on the low coast, and is largely cultivated even on the elevated

plain of Toluca, which is nearly 9000 feet above the sea. It is amazingly prolific. In some parts of the coast, where great heat is united to great moisture, it yields 800 fold; in other less favoured situations, from 130 to 150 fold; and even in the most steril parts, as much as from 24 to 60 fold. The average crop, south of 24°, is estimated at 150 fold: farther north it is less productive, and the average crops probably yield only 70 or 80 fold. Even in the valleys of Upper California it is carefully cultivated. Maize constitutes the principal article of food of the aboriginal population. The same field will produce two or three crops annually, but generally only one crop is taken. An inebriating drink, called *chica*, is made of the maize. It also forms one of the principal articles in the internal commerce of the country: but little of it is exported.

The white population are the principal consumers of wheat; the cultivation of which, south of 24°, begins in the districts which have an elevation of 2800 or 3000 feet above the sea, and in some places it only begins at an elevation of 4000 feet, and extends to 7500 feet. It is principally grown on land which can be irrigated: it is twice irrigated—in January, when the plant first appears above the ground, and in March, when the ear begins to be formed; and on each occasion the ground is kept wet for some weeks. When the soil is good, the crop is abundant. In the plains along the Rio Santiago, from Querétaro to Leon, which are above 100 miles in length, with an average breadth of from 20 to 30 miles, wheat sometimes yields 50 or 60 fold; and the average crops are estimated at from 35 to 40 fold. In other districts it varies between 20 and 30, and where the land is bad, it gives only 16 fold; but even land which cannot be irrigated, yields from 10 to 12 fold. Excellent wheat is grown in Upper California, where it is also irrigated, and where the average crops are 16 or 17 fold.

Rye and barley are also cultivated at the same elevation, and barley even still higher; but only small quantities of either of these grains are raised. Oats are not cultivated; the Mexicans, like the Spaniards, feed their horses on barley.

Potatoes are generally cultivated on the table-land. In Mexico they have the art of preserving them for many years, by drying them in the sun. The other vegetables cultivated in the fields are the *oca*, which, however, succeeds only in the warmer districts; the *igname* (*Dioscorea alata*), which has very large roots; the sweet potato, which succeeds on the table-land, especially at Querétaro; the *cacomite*, a species of *tigridia*, from whose roots a flour is prepared; the tomato, the ground-nut, and several kinds of capsicums. The capsicums, called *chilli*, are as indispensable at the table of the lower classes as salt is with us.

Rice has been introduced, but its culture is very limited, on account of the great dryness of the soil of the table-land. The cultivation would probably be profitable in the level grounds of the State of Tabasco,

Among the objects of agriculture, the *maquey* (*Agave Americana*) occupies a distinguished place. There are extensive plantations of it on the higher portions of the table-land south of the Rio Santiago, especially on the plains of Toluca and Puebla. This plant requires a dry soil, and frequently grows on the sides of rocks which are scarcely covered with vegetable mould. It is very hardy, and does not suffer from dryness, from cold, nor hail-stones. In good soil the plant begins to yield juice in the fifth year, but in very bad soils not before the eighteenth year. The juice, which is obtained from it by incision, resembles cider, and has a very disagreeable smell. The whites who succeed in overcoming their dislike to the smell, prefer it to every other kind of beverage. By distillation this juice may be converted into a strong spirit, called *maquey brandy* (*Aguardiente de Maquey*), or *Mexical*. Thread is made from the leaves of the *maquey*, and they may also be used for making paper.

All kinds of leguminous vegetables cultivated in the south of Europe have been successfully transplanted to Mexico, and some of them are extensively cultivated. Many of the other vegetables of Europe are also commonly grown, as onions, leeks, garlic, and carrots.

Many districts of Mexico contain extensive vineyards; but during the Spanish dominion the making of wine was prevented as much as possible. The art of wine-making has consequently not been improved, and the wines of Mexico are of inferior quality. The best are those of Parrus, in the plain of Chihuahua, and of Paso del Norte, on the Rio Grande del Norte, near the most northern extremity of the isthmus. Excellent grapes are grown at Zapotitlan, in the State of Oaxaca.

The fruits of Europe succeed very well on the table-land of Anahuac, and there is abundance of cherries, plums, peaches, apricots, figs, melons, apples, and pears. The figs of Lower California form a considerable article of export to the other States of the Republic, and the dates which grow there are much esteemed: the grapes are also excellent. Oranges, lemons, pomegranates, and quinces abound in Sonora. There are in Mexico also pine-apples, granadillas, sapotes, guavas, anonas, cherimoyas, and other fruits.

The sugar-cane succeeds very well in most of the countries south of 28°. The most productive plantations are on the declivities of the table-land, and in the lower plains to the elevation of 5400 feet above the sea; but in places well sheltered the sugar-cane grows nearly as high as 7000 feet. These plantations are most numerous in the valley of the Rio Santiago, and on the plains towards the Pacific. Their produce is very considerable, but nearly the whole of the sugar is consumed in the country.

Cotton is likewise extensively cultivated. Coarse cotton cloth constitutes the principal if not the only dress of the lower classes, especially of the Indians: most of the raw cotton is consumed in the country.

The best is grown in the low plains skirting the Pacific, near Colima, whence small quantities are exported, and in some valleys of the plain of Chihuahua.

Excellent coffee is grown on the more elevated districts of the plain of Cuetzlactlan, near the foot of the eastern declivity of the table-land at Cordova and Orizaba : but the produce has hitherto been so small that it has hardly been more than sufficient for the home consumption. Some small quantities only have been sent to New York.

At the time of the conquest cacao was extensively cultivated, and was used as the small coin of the country. But this branch of agriculture has gradually decreased, and it is now so entirely neglected that there are only a small number of plantations at Colima, and on the banks of the Rio Huasacualco. As the consumption of this article is very great among all classes of the white inhabitants, there is a considerable importation of cacao from Guatemala, Venezuela, and Guayaquil.

Vanilla is collected in the forests which extend at the foot of the table-land in the plain of Cuetzlactlan, and likewise in some of the valleys of the States of Oaxaca and Zacatecas. Sarsaparilla is also found in the same districts.

The jalapa grows on the eastern declivity of the table-land between the two high summits of the Cilaltepetl and of the Nauhcampatepetl, at an elevation of 4500 or 5000 feet, whence it is brought to Vera Cruz.

Tobacco is grown in the country about Cordova and Orizaba, and the quality is hardly inferior to that of Cuba. But hitherto tobacco has been a government monopoly, a circumstance which has prevented its cultivation from becoming more extensive. Small quantities only are exported.

Indigo was once extensively cultivated, but it is now neglected. The produce of the small plantations along the shores of the Pacific is not sufficient for the consumption of the country, small as it is. Indigo is only used to dye some of the coarse cotton cloth, and even for this purpose some indigo is imported from Guatemala.

In Mexico extensive tracts are left in pasture. Grass is not equally abundant through the whole year. Even in those districts where a great quantity of rain falls annually, the grass is entirely withered during three months at least; and, in those districts where there is less rain, for a much longer time. The deficiency of grass is partly supplied by artificial meadows, which are made by irrigating the lower tracts along the water-courses.

All the domestic animals of Europe have been introduced into Mexico, and have greatly increased. Horned cattle are very numerous in the plains of Cuetzlactlan, Monterey, Chihuahua, and in the valleys of Upper California. Hides, tallow, and soap are great articles of internal commerce, and hides are also exported to a considerable amount.

Horses and mules are most numerous in the plain of Chihuahua; and

the northern districts the horses of New Mexico are most esteemed. Many of them run about in a wild state, though all of them have owners. Some of the landed proprietors have from 30,000 to 40,000 head of cattle and horses. Horses and mules are exported to the United States of North America in considerable numbers, and the consumption in the country is very great: owing to the almost complete deficiency of carriage-roads, mules alone are used for travelling and the transport of merchandise.

Sheep are not extensively bred, except in the plains of S. Luis de Potosi and Chihuahua, where there are some large flocks, and in Upper California. The sheep do not appear to be derived from the best breed of Spain, and nothing has been done to improve the wool, which is usually very coarse.

Hogs are very common on the table-land; and in some districts, as in the plain of Toluca, the breed is well attended to.

Fowls have been brought from Europe, and have greatly increased. Mexico has several indigenous domestic birds; as the hoccoos (*crax nigra*, *C. globicera* & *C. pauxi*), turkeys, different kinds of pheasants, ducks and water-fowl, the yacoos (*Penelope*), and the aras (*Psittacus macro-urus*); the meat of the last is considered as a great dainty when young. The common duck is also reared.

The silk-worm was introduced by the Spaniards, and was formerly carefully attended to on the southern declivity of the table-land, in the State of Oaxaca; but this branch of industry is now almost entirely neglected. There is, however, a species of wild silk-worm in Oaxaca, which spins a silk resembling that of the bombyx mori of China. Coarse handkerchiefs are made of this silk in Oaxaca.

Bees'-wax is collected in considerable quantities in the eastern districts of Yucatan, especially in those parts which enclose the Bay of Campeche. It is said to be much more difficult to bleach this wax than that which is produced in Europe. The consumption of wax-candles is great; and large quantities are imported.

The cochineal insect seems to thrive only between the tropics, and at an elevation of about 5000 feet above the sea. It is only reared on the table-land of Guatemala, and the southern extremity of that of Anahuac, in the State of Oaxaca. In the latter district the attending to this insect forms the chief occupation of a large part of the Indian population. It is also found further north, but is not abundant. Two kinds of insects produce the cochineal. The produce of one is called *grana fina*, and that of the other, *grana silvestre*, or wild cochineal. Next to the metals, cochineal forms the most important article of exportation from Mexico; and the average annual export is about 100,000 pounds weight.

The purple shell (*Murex*) occurs along the coast of the Pacific, especially in the Bay of Tehuantepec, and along the shores of Upper Cali-

foria, between Monterey and the Bay of S. Francisco. The red juice is used by the Indians for dyeing cotton.

On the west coast of Mexico, north of 22° , and especially in the sea about the southern extremity of Lower California, the spermaceti whale is found in abundance; but the Mexicans abandon the fishery to the whalers from England and the United States of North America.

If we consider the quantity of the precious *metals* which has been obtained from the mines of Mexico in the last two centuries, and the amount which continues to be extracted from them, we may safely pronounce Mexico to be the richest country on the globe in this respect. Gold is certainly less plentiful than in Brazil, and probably also less abundant than in some parts of Western Africa; but still it is found in very considerable quantities, particularly in several extensive districts on the western declivity of the Sierra Madre, in Sonora and Oinaloa, on the upper branches of the Rio Yaqui and the Rio S. Ignacio; the latter of which streams drains the country between the lower course of the Rio Gila and the northern portion of the Bay of California. Gold here occurs at the depth of from 6 inches to 10 feet below the surface, where it lies mixed with earth on the primitive rocks: vertical holes, about 6 feet in diameter, are made to that depth; the earth is extracted, carefully washed, and the gold separated from it. Very considerable pieces of native gold, sometimes weighing several ounces, are frequently thus obtained. Every person is permitted to search for gold, with no other restriction, than that he must not interfere with others who follow the same occupation. It is not, however, a very lucrative occupation, and is only followed during the rainy season, which, in this part of the country, lasts from six weeks to two months.

This part of the country also contains the gold mine of Cosalá, which is, perhaps, the richest in the world. It has always been very productive, and it is said that upwards of 1,000,000*l.* in value could be obtained from it annually. Humboldt mentions some gold mines at the southern extremity of the table-land of Anahuac, in the State of Oaxaca, but he adds, that their produce is very inconsiderable. A much greater quantity of gold is found united with silver: it amounts, according to Humboldt, to from one to three thousandth parts of the weight of the silver.

Silver constitutes the principal mineral wealth of Mexico. There are silver mines all over the table-land of Anahuac, but they are less numerous in its southern districts; those which are south of 21° N. lat. are neither numerous nor productive. The richest mines occur between 21° and 24° N. lat. There are, however, several rich mines on that part of the Sierra Madre which extends between the plain of Chihuahua and the Gulf of California, as far as 27° N. lat. The silver-mines, which occur in the mountain-district of Sonora, are not rich, though they are numerous. The plain of Chihuahua is not quite with-

mines; and they are said to be very rich in the mountainous tract, called the Bolson of Mapimi; but nearly all the ore which is melted down in several towns of the plain is brought from the mines which lie far east as the eastern declivity of the table-land, and in the Sierra Madre, south of 31° N. lat.

The mines which have produced the greatest quantity and the richest ore are, Real del Monte, Zimapan, (el Doctor) las Charcas, and Real del Atorce, which lie in a line from south to north, not far from the eastern declivity of the table-land. Towards the middle of the table-land are Guanajuato, S. Luis de Potosi, Zacatecas, and Sombrerete; and, towards its western declivity, Balaños, and Rosario. On the northern prolongation of the table-land are the mines of Guarisamey and Parral, and on its western declivity those of Alamos, between the Rio del Tuerte and the Rio Mayo. The number of the silver mines which have been worked, or are still worked, is prodigious. Humboldt thought, some twenty years ago, that it must exceed 3000; but there is reason to suppose that the number may, without exaggeration, be estimated still higher.

Native silver has been procured, in pieces of considerable size, in the northern mines, but no lumps have been found so large as [at Kongsberg, in Norway, or at the Schlangenberg, in the mines of Kolywan, in Siberia. Humboldt, however, is of opinion, that in no country do minute particles of pure silver, embedded in the hard rock, occur so frequently as in Mexico. It is also his opinion, that the mines of Mexico do not produce richer ores than those of Europe. He found that the ores in Mexico did not contain, on an average, more than from two to three ounces of silver in a hundred weight; and nearly as much as this is got from the ores of Saxony. But the ore itself is found in great abundance, and the facility of extracting it from the earth is greater than in any other part of the world.

Copper is much more abundant than is generally supposed, and that of Sonora contains a considerable quantity of gold. Humboldt informs us that it occurs in the State of Michoacan, in the mines of Ingaran, a little south of the volcano of Jorillo, and at S. Juan Guetastato, and also in New Mexico. Hardy observed several mines of copper in the mountain district of Sonora, which were worked with great success. The produce of these mines is not sent to Europe, but to China, where it is said that the Chinese understand the art of separating the gold from the copper at less expense than it is done in Europe.

Tin is found in several places on the table-land, especially in the States of Guanajuato and Xalisco; the latter of which, in 1802, produced about 2300 cwt. It is usually that description which is called wood-tin. There is a mine of quicksilver at S. Onofre, in the State of Querétaro, not far from the eastern declivity of the table-land. It is worked, and the produce is considerable.

Mexico is by no means deficient in iron-ore, but the mines have only been worked at intervals, when a maritime war interrupted the supply from Europe, and raised the article to an exorbitant price. Since Mexico has formed an independent republic, and foreign miners have had access to the country, the iron mines have begun to attract attention, and a few of them are now in a regular course of being worked, principally by German miners. They are mostly situated along the eastern declivity of the table-land in the State of Querétaro.

Lead is also abundant in several parts of the table-land, at no great distance from its eastern declivity, but though not entirely neglected, this metal is not worked with much activity. Humboldt also enumerates zinc, antimony, arsenic, cobalt, and manganese among the metals which are abundant in Mexico.

Coal has not yet been found on the Mexican isthmus, but there is probably coal in New Mexico in the Sierra Verde, and also in Texas.

Salt is obtained in several places on the table-land by washing the upper surface of the soil which is found in certain cavities in the rocks, and exposing the water to evaporation. On the shores of the Pacific, in the district of Colima, there are extensive salt marshes, from which great quantities of salt are annually produced; but the greatest quantity is procured from different salt lakes, especially the Laguna de Peñon Blanco, which is situated between Zacatecas and S. Luis de Potosi, and enclosed by rocks. At the bottom of this rock is a stratum of clay, which contains 12 or 13 per cent. of salt. Along the coast of Cuétlachtlan also salt is prepared, and great quantities are taken from a lake on the island of Del Carmin in the gulf of California. By far the greatest part of the salt is consumed in the mines for smelting the ore which contains silver. The people of Mexico use very little themselves, having found a substitute for it in the capsicum.

5. The *population* of Mexico is composed of aborigines, whites, or the descendants of Europeans and a mixed race. The Indians of pure blood appear still to form the bulk of the population. Humboldt thinks that they constitute two-fifths of the whole population; but he supposed the countries north of the Rio Santiago to be nearly entirely inhabited by whites. Lieutenant Hardy, however, discovered, that in the State del Occidente, the proportion of whites to Indians was only about one to fifteen. On the plains of Cuétlachtlan, Monterey, and Chihuahua, the number of Indians does not seem to be considerable; but in Upper California they compose four-fifths of the population, and the extensive country between the last-named province and New Mexico is entirely in possession of independent tribes. Their numbers, of course, are unknown, but are vaguely estimated at 300,000. We may therefore, assume that the Indians compose considerably more than one-half of the whole population.

The Indian population of Mexico, with respect to civilisation, may be

divided into three different classes—those who have already made considerable progress in the arts of civilised life, those whose civilisation has been promoted to a certain degree by Europeans, and the independent tribes.

At the time of the arrival of the Spaniards, that part of the table-land of Anahuac, which lies to the south of the Rio Santiago, was inhabited by nations who were well acquainted with agriculture; and if we may judge by the condition of their fields, they must have been cultivators of the ground for many centuries before the invasion. That they were not in other respects unacquainted with the arts of civilisation is proved by the roads which they had made, and the large buildings which they had erected, especially their temples or *teocallis*. The Spanish conquest at once stopped the progress of Mexican civilisation; and from that time the people may be considered as having remained stationary, if they have not even retrograded. Their political institutions were destroyed, and for their native religion another was substituted, the meaning and character of which they did not understand.

At first the Indians were treated by the Spaniards nearly as slaves; and though the Court of Madrid disapproved of such proceeding, and tried in various ways to protect the natives against oppression, it only succeeded partially and after a long time, by separating, in some degree, the Indians from the Spaniards, and by permitting the former to choose their own village magistrates. But this measure did not free them from oppression. At the time of the conquest a great number of families, belonging to the Mexican nobility, had retired to the villages, and begun to cultivate the ground with their own hands. They preserved among their neighbours the respect which was due to them according to the institutions of the Mexican monarchy. The government of the villages fell as a matter of course into their hands, but they abused the confidence reposed in them, partly by submitting to the unjust exactions of the whites for the purpose of gaining their friendship and protection, and partly by using their authority as a means of increasing their own fortune. Such was the political condition of the Indians under the Spaniards. We do not know whether it has materially changed since the country has become independent of Spain, except that the capitation-tax paid by them has been abolished.

The Roman Catholic religion, which was introduced by the conquerors, has not been more effective in improving the condition of the Indians. The destruction of the native heathen ceremonies was effected with great zeal, and even with cruelty. But after having demolished the native religious system, the Spanish clergy found it no easy matter to introduce the Christian faith, and they only accomplished their object by blending the ceremonies of the Catholic church with some of the native superstitions. Farther than this they did not proceed, and the religion of the Indians has remained to this day a mixture of Chris

tian and heathen ceremonies and observances, totally unsuited to improve the moral and intellectual character of the people.

The Indians form the lower classes of menial servants, and by far the majority of the cultivators of the ground. Some branches of agriculture are exclusively carried on by them, as the planting of the maguey and the breeding of the cochineal insect. They seem averse to the exercise of the mechanical arts, and there are few manufacturers among them. Great numbers are employed in the mines.

Most of the Indians live in great poverty, and enjoy few of the comforts of life; their habitations are small and badly built; their food consists chiefly of vegetables, and their bread is made of Indian corn. Like all the aboriginal nations of America they are fond of intoxicating drink, but many of them content themselves with *pulque*. There are, however, some rich families among them, particularly near Puebla de los Angeles, in the plain of Toluca, and in the states of Michoacan and Oaxaca; but, though rich, they live in the same manner as their poorer neighbours.

The Indians who have been civilised by the Europeans live to the north of the Rio Santiago, principally in the State del Occidente, and in the missions of Lower and Upper California. At the time of the Conquest all of them led a wandering life, and lived chiefly on the produce of the chase and by fishing. They were very warlike, and for some time opposed an effective resistance to the Spaniards; but the monks, especially the Jesuits, succeeded in settling among them, and soon found means to fix them in permanent habitations, and to introduce among them that civilisation which consists in agricultural pursuits and the exercise of the mechanical arts. The monks also subjected their converts to their ecclesiastical dominion. After the suppression of the Order of the Jesuits the Indians were not liberated from this yoke; for the secular clergy, who supplied the place of the Jesuits, discovered the means of continuing the system of subjection, without doing anything to improve the condition of their flock. But this state of slavery does not seem to have deprived the natives of the brave spirit which their ancestors exhibited. Since Mexico has obtained its independence, they have not tamely submitted to the laws imposed on them by the whites, but have taken up arms in defence of their rights, and they appear to have partly accomplished their object. This is at least the case with the Yaqui nation, which inhabits the country on the river of that name, and whose population is estimated at from 40,000 to 60,000 individuals.

These nations are principally occupied with agriculture, but they also practise the mechanical arts, and they show their activity and enterprising spirit as miners, gold-diggers, and pearl-divers. They are among the most industrious and useful of the inhabitants of Mexico.

The independent tribes are probably in possession of not less than one-hird of the territory of Mexico. In the whole of the extensive country

which is north of 32° , there are no European settlements and no Indians subject to the laws of the Republic, except along the coast of the Pacific and along the banks of the Rio Grande del Norte. In the other provinces

Mexico there are no independent nations, except in the Bolson of Apimi, in the plain of Chihuàhua, and in the interior of Yucatan, where a few feeble tribes still exist. We know very little of these nations, except that they lead a wandering life, are very warlike, and carry on a continual warfare with their neighbours and the white settlers in their vicinity. They seem in many particulars to resemble the wild tribes of the United States of North America. But some of the missionaries, who have visited the interior of the country drained by the Rio Colorado and its tributaries, state that they found in these regions nations cultivating the ground, and inhabiting extensive villages and large dwelling-houses, who seemed to live in comfort, and who had great simplicity of manners.

The aboriginal inhabitants of Mexico speak different languages. Humboldt enumerates fifteen languages, and is of opinion that the whole number exceeds twenty, which is more than probable, as his list does not comprise the languages of the six or seven nations which inhabit the State del Occidente. In this estimate the languages of the Indians in the missions of both Californias are not included: in Upper California alone, between S. Diego and the Bay of S. Francisco, seven languages are spoken, according to the statement of some missionaries, and more recent information makes this number still larger. The languages of the independent nations are not taken into the account here. Most of these languages have so little affinity to one another, that they differ at least as much as the German from the Greek, or the French from the Polish. The language of the Aztecs is spread over the greatest part of the table-land; the other languages are confined to particular districts. The language of the Othomites, like the Chinese, consists only of monosyllabic words. But many of these languages, though different in the ordinary sense of the term "different," may be radically the same.

The number of the whites, or descendants of Europeans, is very considerable. Humboldt estimated them at about one-fifth of the whole population, and this proportion has probably increased since he was in the country. He found that the richer families were as fond of knowledge, and as well acquainted with the fine arts, as most of the nations of Europe; and that, in civilisation, they could hardly be said to be inferior to them; but there was a very great disparity of fortune among them, greater perhaps than in any other country in the world.

The whites are far from being equally distributed over the country; they are most numerous between 20° and 24° N. lat., on the table-land, and also in the plains of Chihuàhua and in Cinaloa. On the table-land they perhaps constitute about one-third of the population; and in the plains of Chihuàhua and in Cinaloa they form a much larger pro-

portion. On the southern portion of the table-land, where there are few or no mines, the number of whites is small, particularly in the State of Oaxaca, where the proportion of the whites to the whole population is as 6 to 100. In Sonora, or the northern part of the State del Occidente, it is not much more. In California their number may amount to one-fifth of the population; but the settlements on the banks of the Rio Grande del Norte seem to be composed entirely of whites.

The mixed races, according to Humboldt, amount to two-fifths of the whole population; but, as he has certainly underrated that of the Indians, we may estimate it at somewhat less. This class is almost entirely composed of Metis, or Mestizos, the descendants of Europeans and Indian women. The number of negroes imported into Mexico has been small; and Mulattoes, or descendants of Europeans and negro women, and Zambos, otherwise called Chinos, or the offspring of negroes and Indians, are few in number. The mixed race is only numerous in those places where the Europeans form a considerable part of the whole population.

The Metis apply themselves very little to agriculture; they are, however, very industrious as mechanics and in other trades. They generally unite economy with industry; and many of them are in good circumstances, and live no worse than the lower classes in Spain. Their families are supposed to compose one-third of the mixed race, and are considered, upon an average, to expend about 60*l.* each annually. A great number of Mestizos are employed as servants.

The population is very unequally distributed over the surface of Mexico. The country extending on the table-land between the isthmus of Tehuantepec and 22° N. lat. is by far the most populous region, and may be compared with many parts of the European continent. The mining countries north of 22° are not less populous. The low countries along the shores both of the Gulf of Mexico and the Pacific Ocean are thinly inhabited: this is also the case with the plain of Chihuahua. In those countries, belonging to the United Mexican States, which extend into the continent of North America, the settlements are few in number; and the number of the independent natives is not known, but it is probably not great.

The last census was taken in 1793, at which time Mexico was found to contain 4,485,529 inhabitants. On this census Humboldt founded his estimates, by which he came to the conclusion that, at the end of 1803, Mexico would contain 5,800,000 inhabitants. Since Mexico has obtained its independence several reports of the population have been published, partly by the officers of government and partly by private persons. These reports differ considerably in the number of inhabitants which they assign to each State, and in the whole amount of the population; which latter, by some, is stated hardly to exceed 6,000,000, while others raise it to 8,000,000. The following ac-

Count may be considered as the mean of these statements for the year 1830:—

Names of States.	Number of Inhabitants.	Extent in Square Miles.	Number of Inhabitants on each Square Mile.
1. Cohahuila (Texas included)	46,000	136,500	$\frac{1}{2}$
2. Tamaulipas . . .	60,000	40,000	$1\frac{1}{2}$
3. Vera Cruz . . .	250,000	22,000	11
4. Tabasco . . .	55,000	10,500	5
5. Yucatan . . .	520,000	48,500	11
6. Chiapa . . .	130,000	38,500	4
7. Oaxaca . . .	600,000	34,500	17
8. Puebla . . .	820,000	21,000	39
9. Mexico, with the federal district } . . .	1,300,000	30,000	43
10. Michoacan . . .	450,000	26,500	17
11. Xalisco . . .	800,000	74,500	10
12. Occidente . . .	180,000	148,000	$1\frac{1}{2}$
13. Chihuahua . . .	120,000	72,500	$1\frac{1}{2}$
14. Durango . . .	200,000	56,500	4
15. Nuevo Leon . . .	85,000	20,000	4
16. Zacatecas . . .	275,000	18,500	15
17. S. Luis de Potosi . . .	220,000	17,500	13
18. Guanajuato . . .	450,000	8,600	$52\frac{1}{2}$
19. Querétaro . . .	230,000	15,500	15
	6,791,000	833,600	

6. The *United States of Mexico* consist of nineteen States and five territories, which, beginning at the east, come in the following order:—

I. The *State of Yucatan* comprehends the whole of the peninsula of that name, as far as it belongs to Mexico. The Mexican part is divided from the British colony of Belize by the Rio Hondo, and from Guatemala by a line running from the banks of that river, westward and across the northern branch of the table-land of Guatemala. It is separated from the States of Tabasco and Chiapa by the Rio Pacaitun, which falls into the Lagune de Terminos. It is a hot, but healthy country. In the forests extending along the east coast, as well as on the western shores, south of the town of Campeche, mahogany and Campeche-wood abound, and are exported. Great quantities of wax are collected. The population consists principally of whites, but there are also many Indians of the nation of Maya, who had attained a considerable degree of civilisation before the arrival of the Spaniards, and some of them have maintained a degree of independence.

Merida, the capital, is about 24 miles from the sea, on an arid plain. It carries on some commerce in agricultural produce by means of the small harbour of Sizal, which is formed by a sand-bank, and has little depth of water. The population of Merida amounts to 28,000 souls.

Campeche (S. Francisco de), on the shore of the bay of that name, has a harbour, which is not safe. It exports considerable quantities of wax and Campeche-wood. The population is estimated at 18,000 souls.

Great quantities of Campeche-wood are sent to Belize from Bacalar, a place situated on a river which falls into the Hondo. In this part of the country frequent ruins, especially of tombs, are met with.

II. *The State of Tabasco* extends from the Rio Pacaitun to the Rio Huasacualco, more than 200 miles along the shore, and about 50 or 60 miles inland. The surface is level, and mostly subject to inundations. The principal articles of commerce are pimento and cacao. The population is mixed, but the Indians are the majority.

Victoria, or Tabasco, the capital, is built on an island at the mouth of the Rio Tabasco. It has a harbour, and carries on some trade in the produce of the country. The population is 4000.

S. Juan Bautista, or Villa Hermosa, is situated on the Rio Tabasco, towards the southern boundary of the state. As small vessels can ascend the river up to this town, it has some little commerce in the products of the country. It contains 8000 inhabitants.

III. *The State of Chiapa*, until the year 1825, belonged to Guatemala: in that year it joined the Confederation of the States of Mexico. Chiapa is separated from the Gulf of Mexico by Tabasco, and from the Pacific by Soconusco, a department of the State of Guatemala. It comprehends the western declivity of the table-land of Guatemala, which here terminates in alternate successions of broad ridges and wide valleys. The valleys are rich in tropical productions. The population consists principally of Indians, who speak five different languages.

Ciudade de las Casas (formerly Ciudade Real), the capital, is situated in a fertile valley: it has a university and 3800 inhabitants. A monument was erected here in 1826 to the memory of the Bishop de las Casas.

At the north-eastern angle of this State, near the boundary of Yucatan and Tabasco, in a thick forest, are some ruins, which extend for more than 20 miles along the summit of a ridge, and apparently are those of a very large city. The character of the building, as well as of the ornaments, differs greatly from that of all other ancient edifices in America. These remains are called the ruins of Palenque, from a neighbouring village of that name.*

IV. *The State of Oaxaca* comprehends the southern portion of the Isthmus of Tehuantepec and the table-land of Mixtecapan: it extends

* London Geog. Journal, vol. iii., p. 60.

along the Pacific, with a coast-line of more than 360 miles. The surface is uneven, the table-land being furrowed by wide valleys, which extend north and south. It is one of the best cultivated and most populous parts of Mexico, and produces, in addition to cochineal, great quantities of indigo and cotton. Silk is got from a species of wild silk-worm. There are some mines of silver and gold, but they are not important. The inhabitants are chiefly Indians.

Oaxaca, the capital, situated in a fertile valley, 4800 feet above the sea, is well built, and contains some fine squares and public edifices: it has also an aqueduct. The inhabitants, who are said to amount to 40,000, are very industrious, and have manufactures of silk, cotton, sugar, and chocolate.

Tehuantepec, situated at the mouth of the Rio Chamalapa, has a harbour, the entrance of which is very dangerous, and not deep enough for large vessels. Salt is made in the neighbourhood. The population is 7000 persons. There are remains of ancient buildings in several parts of this State. The most remarkable are near the village of Mitla (5300 feet above the sea): they appear to have been designed as burying-places for the ancient kings of the country. They differ considerably in character from those found farther north. The distribution of the apartments in the interior bears a close resemblance to that of several similar edifices in Upper Egypt: the outer walls are ornamented with pieces of porphyry.

V. The *State of Vera Cruz* comprehends a small portion of the Isthmus of Tehuantepec, and the greater part of the plain of Cuertlaxtlan, with the eastern declivity of the table-land of Anahuac; a small portion of the table-land, and also the mountains of Chilaltepetl and Nauhcampatepetl belong to it. The shore on the Gulf of Mexico is low, sandy, sterile, and unhealthy; but farther inland the vegetation is very vigorous, and the soil produces tobacco, coffee, sugar, vanilla, and sarsaparilla. The mines are not important. The inhabitants are mostly of the mixed race.

Vera Cruz, the principal port of Mexico, on the Gulf of Mexico, is built in a sandy plain intersected with marshes, which render the climate extremely unhealthy in summer. The port is, properly speaking, an open roadstead, protected only by a shoal, and is very dangerous in winter-time, when the north and north-west winds blow with great violence: it is also small, and can only contain from 30 to 35 vessels. It is protected by the fortress of S. Juan de Ulloa, which is built on a small island opposite the town, and adjacent to the shoal called la Gallega, which protects the shipping. The town and fortress are built of coral rocks, taken from the bottom of the sea. The want of good water is a great disadvantage. Nearly all the inhabitants are of the mixed race. The merchants reside in the town of Jalapa, and only visit the port when called there by business. The population does not exceed 7000. All

the commerce between Europe and Mexico was formerly concentrated in this town; and even now it exports all the agricultural products of the country, and divides with Tampico the export of the produce of the mines.

Xalapa, or Jalapa, the capital of the State, is situated on the steep declivity of the table-land, about 4340 feet above the level of the sea. It is a pleasant town, and the depôt between Vera Cruz and Mexico. An annual fair is held here, which is much frequented. It contains eight churches, a good school for drawing, and 13,000 inhabitants. A few years ago the ruins of a large and ancient town were discovered in the mountains about 20 miles from this place.

Perote, situated on the edge of the table-land, 8300 feet above the sea, has a population of 10,000.

Orizaba and Cordova are two small places, in the neighbourhood of which tobacco is raised, and sarsaparilla collected.

Alvarado, at the mouth of the Rio Alvarado, has a small harbour, some little trade, and 1600 inhabitants.

Huascalco, or Guazacoalco, at the mouth of the river of that name, has a port which only admits vessels drawing less than 10 feet water, owing to a dangerous bar at the entrance of the river. Its commerce is inconsiderable.

In the northern part of this state, in a forest near the large Indian village of Papantla, there is a teocalli or pyramid of high antiquity. It is built with great skill of large pieces of porphyry, and consists of seven terraces. It is covered with numerous hieroglyphics. There are 366 niches on the terraces, and twelve on the staircase which lead to the summit. The niches seem to have reference to the year and the calendar of the ancient inhabitants of Mexico.

VI. *The State of Puebla*, which extends from $16^{\circ} 57'$ to $20^{\circ} 40'$ N. lat., comprehends a large portion of the table-land of Tlascala, and of its southern declivity, having only a low and comparatively narrow tract along the coast of the Pacific, about 65 miles long. The greater part of the surface is uncultivated; but between 18° and 19° N. lat. extend the plains of Puebla, of Cholula and Tlascala, which produce abundance of wheat, Indian corn, maguey, and several kinds of excellent fruit. To the north of 19° N. there is a desert, the surface of which is partly formed of bare volcanic rocks, and partly covered with heath. The mirage is very frequent in this desert. This tract is called *El Mal Pais* (the bad country). The declivity of the table-land south of 18° N. lat., is also nearly uncultivated; though according to Humboldt it is not sterile, and might be made to yield sugar, cotton, and other tropical productions. Within this state is Popocatepetl, the highest of the Mexican mountains. The mines of gold and silver are not important, and are nearly abandoned; but some iron mines have been lately opened in the neighbourhood of Popocatepetl. Marble is found in several

places; and great quantities of salt are procured. The bulk of the inhabitants are Indians, who speak three different languages. They are industrious as agriculturists, and also manufacture coarse cotton cloth.

La Puebla de los Angeles, the capital, contains between 60,000 and 70,000 inhabitants: it is well built, with straight and wide streets, and contains many fine houses. The cathedral, which stands in a large square, is a magnificent edifice, and is rich in gold and silver ornaments. There are several manufactories of soap, earthenware, cotton and woollen cloth, and also a glass-house; the commerce of the town is considerable.

Cholula, which is inhabited only by Indians, has 16,000 inhabitants. It is surrounded by extensive plantations of maguey.

Tehuacan, situated not far from the place, where the states of Puebla, Vera Cruz, and Oaxaca, border on each other, contains about 10,000 inhabitants.

There are several ancient remains in this state. Those best known are the three pyramids or teocallis of Cholula, situated near that town. The largest of them is 190 feet high, and measures upwards of 1500 feet along each side of the base. It consists of four terraces, and is constructed of alternate layers of bricks and clay. It is now covered with grass and bushes, and on its summit is a church, in which only priests of Indian descent officiate.

§ VII. *The Territory of Tlascala* is enclosed by the State of Puebla. It contains a population of Indians, and of mixed race, which, even under the Spanish dominion, enjoyed several privileges which had been granted to them for having aided the Spaniards in the conquest of Mexico under Cortes. Their privileges and independence have been confirmed by the Republican Government. The inhabitants are chiefly occupied with agriculture.

Tlascala, or Tlaxcallan, the capital, contains a population of 4000 persons. The walls were erected long before the arrival of the Europeans.

VIII. *The State of Mexico* lies between $16^{\circ} 34'$ and $20^{\circ} 10' N.$ lat. The northern districts comprehend the elevated plains or valleys of Tenochtitlan and of Toluca: the southern comprise the valleys by which the table-land descends to the Pacific, and also some low tracts along the coast, which extend about 200 miles between Acapulco and Zacatula. The best cultivated portion is the table-land, where wheat and the fruits of Europe are grown, as well as the maguey and Indian corn. The southern districts are very thinly peopled: in these fertile valleys the tropical productions succeed. The numerous mines of this state are situated south of Cuernavaca, between 18° and 19° : some of them are very rich, especially in the neighbourhood of Zultepec, where the mines of Temascaltepec formerly produced annually 260,000 marks of silver. Near Tasco are the mines of Tehuilotepec. Much salt is extracted at some places from the earth, which is impregnated with saline

particles. The white population is perhaps one-third of the whole population of the State. It contains the volcano of Toluca.

Tezcuco, the capital, is situated on the plain of Tenochtitlan, on the east side of the Lake of Tezcuco, and about thirty miles from Mexico. It has some manufactures of cotton, and about 5000 inhabitants.

Toluca, at the foot of the volcano of Toluca, and nearly 9000 feet above the level of the sea, is a well-built town, and has a fine cathedral. It contains about 12,000 inhabitants.

Acapulco is a sea-port on the Pacific, in a very hot climate, which is chiefly owing to the steep mountains of granite which enclose the harbour. The port is capable of containing 500 ships, and is deep enough to allow vessels to lie close to the rocks. It is poorly built, and an unhealthy place: it formerly carried on an extensive commerce, which at present is much reduced. It contains about 4000 inhabitants, principally of the mixed race.

Zacatula is a small sea-port at the mouth of the Rio Zacatula.

The most remarkable antiquities of this state are the two pyramids of S. Juan de Teotihuacan, nearly due north of Tezcuco, the larger of which measures 724 feet at each side of the base, and is 193 feet in perpendicular height. They are formed of a mixture of pebbles and clay, but covered with a thick casing of stone. They consist of four large terraces, each of which is divided into several smaller terraces. Around them is a great number of smaller pyramids, from 30 to 35 feet high, arranged in the form of streets, due north and south and east and west.

Near the small town of Cuernavaca are the ruins of the Indian fortress of Xochicalco, on an isolated hill 409 feet above the adjacent country. This hill is enclosed by moats, and divided into five terraces; the sides of which are exactly opposite to the four cardinal points, and cased with hewn stones, which are covered with hieroglyphics. On the summit of the hill are the ruins of a fortress.

IX. The *Federal District* is surrounded by the State of Mexico, and comprehends only the environs of the metropolis, in the centre of the plain or valley of Tenochtitlan. This plain has an oval form, and extends about 51 miles from north to south, and 36 miles from east to west, with an area of 1836 square miles. The hills which bound the plain are of moderate elevation, except on the south-east, where the high pinacles of the Popocateptl and Iztacchihuatl rise. The surface is undulating, with the exception of a few abrupt rocks of moderate height. Nearly one-tenth of this surface, or 180 square miles, are occupied by four lakes, which are at different elevations above the plain. The lake of Tezcuco occupies the lowest part of the plain, and its surface is only 4 feet below the palace of the president in the city of Mexico; the Lake of S. Christobal, the northern part of which is called the Lake of Xaltocan, is about 12 feet, and the Lake Zumpango about 30 feet above the

Lake of Tezcuco. The Lake of Zumpango is also divided into two parts by a dike; the eastern part is called the Lake of Coyotepec, and the western that of Zitlaltepec. These three lakes occupy the northern part of the valley. In the southern part is the Lake of Chalco, which is only 4 feet above the Plaza mayor of the town of Mexico, and is divided by a dike into the lakes of Chalco and Xochimilco. That of Zumpango, the most elevated of these lakes, receives the Guantitlan, the largest river of the valley; and as the lake had formerly no outlet, the waters, after any extraordinary fall of rain, rose so high as to cover the low country between this lake and that of S. Christobal, and enter the Lake of Tezcuco. Thus the lower part of the valley, and the city of Mexico itself, were exposed to great inundations, which sometimes did not altogether subside for several years. To prevent such mischief, a canal has been cut through the range of hills that encloses the valley on the north, by which the superfluous water of the Lake of Zumpango is carried to the Rio Tula, and by it to the Rio Moctezuma and Panuco. This canal is called *Désague de Huehuetoca*.

The lake of Chalco is connected with the town of Mexico by the canal of Istacalco, which is navigable for canoes, and by which the vegetables cultivated on the chinampas, or floating gardens of the lake, are brought to Mexico. These floating gardens resemble those of Cashmere. They consist of branches, and roots of trees, and rushes twisted together, and covered with earth, which is impregnated with muriate of soda. By watering them frequently a very vigorous vegetation is produced, and they yield very abundant crops of all kinds of vegetables. Every chinampas has the form of a parallelogram, being about 350 feet long, and from 18 to 24 feet wide. Narrow ditches separate them from each other. Most of them have now become fixed to the bottom of the lake, but some are still floating, and may be removed from one place to another.

Mexico, the metropolis of the confederation, is built on a low, marshy ground, west of the lake of Tezcuco, and at an elevation of 7450 feet above the sea. The streets are straight and wide, and there are several large squares. The houses, which are nearly all of the same height in the principal streets, are spacious; they have flat roofs, and are much ornamented. Mexico contains 29 churches, 46 convents, and about 140,000 inhabitants. The most remarkable edifices are the Cathedral, the Palace of the President, the Casa del Estado, and the Mint. The cathedral, which is 500 feet long, and 180 feet wide, and partly built in the Gothic style, occupies the site of the principal temple of the Mexicans, or Azteks. The Casa del Estado was built by Cortes, and is now used for the meetings of the congress. Among the convents, those of S. Francisco and of S. Domingo are the largest and richest. The public institutions are numerous. There is a university, an academy of sciences and fine arts, an academy of mining, a botanic garden, ten hospitals, and a foundling hospital.

Mexico is the centre of an extensive commerce with nearly all the states of the Union, especially those on the Pacific, which receive through it a great quantity of European goods. Its mercantile connexions extend to Asia; to promote which an Asiatic Society has been formed. The manufactures of Mexico are inconsiderable, and are limited to a few objects—such as hats, leather, and cotton cloth. The number of artisans who work in silver is considerable.

Two aqueducts convey fresh water to the city. Though water is found at a small distance from the surface, it is brackish, like that of the lake of Tezcuco. The aqueducts are built on arches. That of Chapultepec is more than 11,500 feet, and that of Sta. Fè about 40,000 feet in length. The water of the former is not quite pure, and is used only in the suburbs; that of Sta. Fè is better, and is distributed through the city. There are numerous fountains in Mexico.

X. The *State of Querétaro*, lying between 20° and 22° N. lat., comprehends a great part of the table-land of Querétaro, which, within the State, is about 6300 feet above the level of the sea. It is comparatively populous and fertile, producing all the grains and fruits of Mexico; the uncultivated tracts, which, however, are not extensive, lie on the eastern boundary, on the mountain ridge, which divides the table-land from the plain of Cuertlactlan, and which here begins to be called Sierra Madre, and to form a continuous chain. There are several rich silver mines, among which those of Real del Monte, Zimapan, and El Doctor are the principal. Rich iron ore was discovered in 1823, and is now worked by German miners at S. José del Oro and Encarnacion. At San Onofre there is a quicksilver mine. The population appears to consist of whites, Indians, and half-breeds, nearly in equal proportions.

Querétaro, the capital, is distinguished by its fine buildings and its aqueduct. Among the convents that of Sta. Clara is very extensive and rich. There are numerous manufactures of woollen cloth, and also of some other articles. The population amounts to about 40,000, of which number one-third are Indians.

Cadereita is a small place, near which there are quarries of porphyry.

Zimapan, situated in the mining district, contains 9000 inhabitants.

Tulancingo, likewise in the mining district, has 15,000 inhabitants, who are chiefly employed in the manufacture of cotton cloth.

XI. The *State of Guanajuato* extends over a portion of the table-land of Querétaro, which, within its limits, has an elevation of about 6000 feet. It is the smallest of the Mexican States, but the most populous, and probably also the richest. The southern districts, which extend along the banks of the Rio de Santiago, are a plain country, from 20 to 30 miles wide, which produces very rich crops of wheat and Indian corn. In the northern and higher parts there are valuable mines, especially those near the town of Guanajuato, which, between 1766 and 1825, yielded 35,919 marks of gold, and 11,729,685 marks of silver. The population is composed of all the three races.

Guanaxuato, the capital, situated in a ravine in the midst of the sierras, 7294 feet above the sea, had, in 1825, a population of 33,000 individuals; it contains a mint and many fine buildings.

Villa de Leon, the second town in the State, contains from 25,000 to 30,000 inhabitants, who are chiefly occupied in tanning, and in making harness and other articles manufactured of leather. The country about the town is very fertile and well cultivated.

Salamanca, with 15,000 inhabitants, has manufactures of woollen cloaks and cotton shawls.

Celaya, on the Rio Grande de Santiago, with a population, in 1825, of 9600 persons, has a convent of Carmelites, which is a fine building.

S. Miguel el Grande is the seat of numerous manufactures of cotton, iron, and steel: it has also a considerable trade in cattle and hides.

Irapuato, with 16,000 inhabitants, manufactures considerable quantities of cotton cloth.

XII. The *State of Michoacan* was formerly the intendencia of Valladolid; but this name was changed at the time of the union of the Mexican States, into that of an ancient Indian kingdom, which existed here before the Spanish conquest. That part of the State which lies to the east of the town of Zapotitli, constitutes the table-land of Michoacan, which is from five to six thousand feet above the sea. The countries west of this town are the plains by which the table-land gradually descends, in the form of terraces, to the Pacific. Along the coast, which is about 100 miles in length, there is a low tract, which extends several miles inland. This state has a considerable portion of fertile soil, and is capable of producing the tropical as well as the extratropical fruits, in abundance. It has several silver mines, which are situated on the table-land near the boundary line of the State of Mexico. The richest are those of Tlalpujahua. The three races seem to be in about equal proportions; but the whites and half-casts inhabit the table-land, and the Indians the lower plains, which extend between it and the sea. There are three tribes of Indians in this state—the Taraskes, Omítes, and Chichimekes; the last speak the language of the Aztecs, and the two former have different languages.

Valladolid, at present called Morelia, in honour of the Mexican general Morelos, is the capital. It is situated in a plain 6434 feet above the sea; and contains 18,000 inhabitants. Some of the public buildings are very good; among others the college, which is esteemed one of the best in Mexico: the cathedral is a magnificent edifice, and the aqueduct, by which the town is supplied with good spring-water, is handsomer than that of Mexico, and built of stone.

Pascuaro, with 6000 Indian inhabitants, is situated on the borders of a fine lake, 7700 feet above the sea. Near Pascuaro is Tzintzontzan, which was the capital of the ancient kingdom of Michoacan; it contains at present 2500 Indian inhabitants.

Ario, with 7000 inhabitants, is situated in a country rich in sugar and other tropical productions.

Tlalpujahua, in the mining district, contains 9000 inhabitants. Manzanillo, the only harbour of the State, is small, and has scarcely any trade.

South-west of the town of Ario is the volcano of Jorullo ($18^{\circ} 31'$ N. lat.), which rose, on the 29th September, 1759, on the surface of an extensive plain, elevated from 2300 to 2600 feet above the sea. A tract, several square miles in extent, was raised about 40 feet above the level of the plain, like a bladder: towards its centre it gradually attained the height of 560 feet. The whole surface of the tract thus raised is covered with many thousand small cones, from each of which issues a column of thick smoke, rising to the height of 35, and even 50 feet. A crack or crevice also runs from N.N.E. to S.S.W., on which rose six larger conical hills; the largest, called the volcano of Jorullo, is 4114 feet above the sea, and 1224 feet above the plain. Before this extraordinary volcanic eruption, this part of the plain was drained by two small rivers, which irrigated the sugar plantations. The rivulets have disappeared; and, from the volcanic region itself, two hot springs at present issue, in which the thermometer rises to 125° of Fahrenheit.

XIII. The *Territory of Colima* is situated on the shores of the Pacific, where it occupies a coast-line of about 100 miles. Its surface, properly speaking, is not mountainous, but a plain, on which there are several high hills and the elevated volcano of Colima. With the exception of the hills, no part of the country probably rises more than 1000 feet above the sea. The climate is consequently hot; and, as the soil is fertile, it yields many tropical products, particularly cotton of excellent quality. Nearly all the inhabitants are Indians, who, at their own request, have a government independent of that of the state of Xalisco, to which they formerly belonged.

Colima, the capital, is situated at the foot of the volcano of the same name, in a very fertile plain.

Purificacion, with 3000 inhabitants, has some gold mines in the neighbourhood.

Huatlan, or Guatlan, and Puerto de Navidad, are two small seaports, which however are not visited.

XIV. The *State of Xalisco* was formerly the Intendencia, or province of Guadalajara. The eastern districts are situated on the tableland of Querétaro; and the western on the lower plains, towards the Pacific. The boundary line between these two districts appears to pass through Bolaños and the cataracts of the Rio de Santiago, at Puente del Rio Grande: but the lower portion of the country, at least that which is south of the Rio Santiago, between the large lake of Chapala and Cabo Corrientes, is extremely uneven and rugged, though none of the hills rise to any great height. The low country north of the river consists of

extensive plains, and contains very few hills. Several parts of the country are fertile; the higher districts produce abundance of wheat, and the lower Indian corn and cotton; in some districts cochineal is produced. The countries along the shores of the Pacific are more covered with forests than any other part of Mexico. Silver mines are numerous, both on the table-land and in the hilly country south of the Rio Santiago; the richest is that of Bolaños. Salt is made along the coast, where there are several salt-marshes. The population is composed of the three races, nearly in equal proportions.

Guadalaxara, the second town in Mexico, is situated in a fertile plain not far from the banks of the Rio Santiago, below the great cataracts. It contains about 60,000 inhabitants. It has a fine cathedral, many churches and convents; and the streets are lined by colonnades. There are several considerable tan-pits and manufactures of earthenware. The commerce of Guadalaxara with the adjacent countries and the port of S. Blas, is considerable.

Tepic, on an elevated plain, not far from the banks of the Rio Santiago and San Blas, is a commercial town, with 7000 inhabitants.

San Blas, or San Blasio, is a good harbour at the mouth of the Rio Santiago, on a rock, surrounded by low marshes, which render the climate very unhealthy. During the rains it is almost entirely abandoned by the inhabitants; who, at other times, amount to about 3000 in number. Vessels are built here; and much salt is collected in the neighbourhood. The trade is considerable, but has lately much decreased.

Lagos, on the table-land of Querétaro, has about 15,000 inhabitants, and many good houses: the country around it is very productive in wheat.

XV. The *State of Zacatecas* comprehends the northern portion of the table-land of Querétaro, and the southern part of the plain of Chihuahua; the boundary line between them running some miles north of the town of Zacatecas, and thence to Sombrerete. Both portions have very arid soil, but the table-land of Querétaro contains many fertile districts. It contains also rich mines of silver; and the plain of Chihuahua has numerous lakes, from which the carbonate of soda is obtained that is used for smelting the ore. The inhabitants are chiefly whites, and of the mixed race.

Zacatecas, the capital, stands in a ravine between high hills, all of which contain veins of silver. Its churches are large buildings, the stone-work of which is richly decorated. The number of inhabitants is estimated at more than 30,000. A great portion of the jalap exported from Mexico is collected in the neighbouring hills and valleys.

Agua Calientes in the neighbourhood of the warm springs, is situated in the most fertile district of the state, in which great quantities of wheat and Indian corn are raised. It contains about 30,000 inhabit-

ants, and has great manufactures of woollen cloth. Its large church has the appearance of a Moorish mosque.

Sombrerete is a small place, and only remarkable for the rich mines of silver in its neighbourhood.

XVI. The *State of San Luis Potosi* comprehends the southern portion of the plain of Chihuahua, and its declivity towards the Gulf of Mexico and the plain of Monterey. The surface is in many places uneven and rugged, and little cultivated. The numerous mines produce silver, copper, tin, and brimstone. In the great salt lake of Pánuco Blanco, and several other places, carbonate of soda is found. The inhabitants are chiefly whites and of the mixed race.

S. Luis Potosi, the capital, is situated in a pleasant valley near the sources of the river Tamoin, an affluent of the Rio Panuco. It contains 16,000 inhabitants, who carry on some trade. If the adjacent villages are included, the population amounts to between 50,000 and 60,000 souls. The mines in the neighbourhood have been abandoned.

Catorce, which is noted for the great quantity of silver that has been got from the neighbouring mountains, stands on the mountain-range bordering the plain of Chihuahua on the east, in a deep depression. It is 7760 feet above the sea.

XVII. The *State of Durango* occupies the highest and widest part of the Sierra Madre, and also a considerable portion of the plain of Chihuahua. The eastern declivity of the Sierra Madre is the more fertile district, and it is better cultivated and more populous than the plain, which is nearly a desert, except along the courses of the rivers. The most productive mines of silver are in the valleys of the Sierra Madre: there are also mines of gold and iron. In the depressions of the plain, cotton of good quality is raised; and on the borders of the lake of Parrus is made the best wine in Mexico. The lake of Parrus receives the Rio Grande de Parrus, and has no outlet. The population, which is scanty, consists mostly of whites and the mixed race.

Durango, at present called La Ciudad Victoria, is a regularly-built town, situated on a plain more than 6848 feet above the sea. In winter the thermometer descends many degrees below the freezing point. The inhabitants, amounting to 22,000, are industrious, and are partly occupied in the manufacture of wool, leather, and in cabinet-work. There are some mines in the neighbourhood, and a mint in the town. Numerous herds of cattle are brought from the plain to the market of Durango.

Nombre de Dios has a population of 7000, and S. Juan del Rio of 10,000 persons.

La Villa de los Cinco Señores, on the Rio Nazas, which forms the boundary between Chihuahua and Durango, is in the centre of a country covered with plantations of cotton, and is a considerable place.

Guarismey, west of Durango, contains about 4000 inhabitants, and is situated in the richest mining district.

Between the towns of Durango and of Nombre de Dios is a level plain, on which there rises a group of basalt rocks covered with scoria; these rocks, called Breña, occupy a space measuring more than 30 miles north and south, and 15 miles east and west. They seem to be the product of volcanic agency. One of the adjacent mountains contains an extinct crater; the circumference of which is 350 feet, and the depth about 100 feet.

XVIII. The *State of New Leon* (Nuevo León) extends over a large part of the plain of Monterey and the mountain tract lying between it and the Rio del Norte. The plain is very little known. The plain appears to consist of extensive levels, here and there intersected by hills of moderate elevation, and exhibits a good deal of fertility, but is little cultivated. There are a few important mines in the mountains of the northern districts. Large herds of cattle pasture on the plains. The population, which is very small, consists chiefly of whites.

Monterey, the capital, with 15,000 inhabitants, is the seat of a bishop, and derives its importance from the neighbourhood of the mines.

XIX. The *State of Tamaulipas* extends along the coast of the Gulf of Mexico from the Rio Panuco to the Rio del Norte, which separates it from Texas. The coast, which is above 350 miles in length, is lined with long lagunes from four to eighteen miles wide, which are separated from the sea by long narrow banks of sand. This circumstance, added to the small depth of the sea along the whole extent of coast, and the shoals which occur at the mouths of the rivers, renders the navigation along the shore of this State very difficult even for small vessels, and quite impracticable for large ones. The width of the country averages about 100 miles, except along the banks of the Rio Grande del Norte, where it may be from 150 to 180 miles wide. The surface is mostly level, and little elevated above the sea. The soil along the beach is sandy, but more inland it is of considerable fertility, and partly covered with forests. Other portions are prairie land without trees. The population is small, and consists mostly of whites and half-casts.

Tampico de las Tamaulipas, on the northern bank of the Rio Panuco, which enters the gulf five miles below the town, has a good harbour for small vessels, but being situated among marshes, it is very unhealthy. It is yet only a small town, but it is thriving, and its commerce increases rapidly.

Nuevo Santander, with a population of 3000, is situated on the banks of the Rio Santander, about thirty miles from the sea. The harbour is called Sotto Marina, further down the river, which has only from six to ten feet water on the bar at its mouth.

Matamoros, on the Rio Grande del Norte, has a harbour for small vessels, and is a new and thriving town. Population, 15,000.

XX. The *State of Coahuila* is between Nuevo Leon and Chihuahua, and lies entirely on the plain of Chihuahua. The southern districts have a level

surface, interrupted by a few hills of moderate elevation, which occur at great distances from each other. The soil is very arid, and the vegetation scanty. These southern districts serve only as a pasture-ground for sheep, and are nowhere cultivated to any extent. The northern districts surrounding the river Sabinos, an affluent of the Rio del Norte, have a hilly and broken surface; the hills seem to form ranges, running parallel to the Rio del Norte, and connecting the Bolson de Mapimi with the mountains north of Monterey. This tract appears to contain a large portion of fertile and cultivable land. There are some silver mines near Santa Rosa. Texas, or the country between the Rio del Norte and the Sabine river, formerly belonged to this state. Horses, mules, and wool are exported to the United States of America.

Santillo, the capital, is situated at the southern extremity of the state, on an arid plain. The only carriage-road by which the plain of Chihuahua can be reached from the shores of the Gulf of Mexico, passes through this place. It contains about 12,000 inhabitants, and has several good streets communicating at right angles with the Plaza, in the centre of which is a large reservoir which supplies the town with water.

Montelovez, with 3600 inhabitants, has some trade with the adjacent countries.

Santa Rosa, with a population of 4000 inhabitants, is in the neighbourhood of some rich silver mines.

XXI. The *State of Chihuahua* comprehends a large portion of the plain of Chihuahua, and likewise the mountain-ridge of the Sierra Madre, between 26° N. lat. and its northern extremity. The plain itself is not fertile, but it affords spacious sheep-walks, and wool is the staple article of the state. The pastures are covered with coarse grass; wheat, Indian corn, and cotton are raised on the lands along the rivers which are irrigated. The Sierra Madre abounds in silver, and contains many rich mines, such as Parral, Batopilas, Cosiquiriachi. Other mines, also said to be rich, have lately been opened in the mountainous tract which is called the Bolson of Mapimi, and which occupies the eastern districts contiguous to the State of Coahuila. The northern district of the state and part of the Bolson de Mapimi also are still occupied by Indians, among whom the Comanches are excellent horsemen, and much dreaded by the white settlers. The Chichimecos are also a numerous independent tribe. The Apaches have settled near the villages of the whites. The whites seem to form the bulk of the population.

Chihuahua, the capital, stands in an arid plain, on the banks of a small rivulet which falls into the Rio Conchos. The houses are well built, and the streets regular. The cathedral is a very large edifice. A good aqueduct brings the water of a river, which is about 8 miles distant, to the town, and is so judiciously contrived that even the highest parts of the city are supplied. The ore procured from the mines to the west,

in the Sierra Madre, is brought to Chihuahua, where the metal is extracted. The population amounts to 25,000 inhabitants.

Sta. Rosa de Cosiquiriachi, on the eastern declivity of the Sierra Madre in a rich mining district, has 10,700 inhabitants.

Buenaventura, a small town with about 1500 inhabitants, is well built.

Parral, or S. José de Parral, in a mining district on the declivity of the Sierra Madre, contains about 7000 inhabitants.

Villa del Valle de S. Bartolomé, is an ill-built town, and the streets are narrow. The population is about 28,000. There are fine plantations of orange and olive trees about the town and in the valley in which it is situated. This valley, which is watered by several small rivers, produces abundance of Indian corn, cotton, and wild honey; which, together with wool, form the commercial articles of this place.

West of the town of Buenaventura there are very extensive ruins, called Casas Grandes. An area of several square miles is covered with the remains of buildings, which must have contained a population of at least 20,000 or 30,000 souls. Fine earthenware jars have been excavated, as well as images made of baked earth.

XXII. The *Territory of New Mexico*, or of Santa Fè, is not situated on the Mexican Isthmus, but principally on the Continent of North America. It comprehends only the valley of the Rio del Norte, from 32° N. lat. to its source. It contains only two fertile tracts along the banks of the river, and these are separated by a desert, which spreads out 170 or 180 miles between 32° 30' and 35° N. lat. The northern and larger fertile tract extends above 150 miles to the north of 35° N. lat., and the climate is very cold: it produces only corn and the fruits of southern Europe; it affords, however, abundance of pasture for cattle and horses. This portion is the district of Santa Fè. The southern tract of fertile land is of very moderate extent, lying between 32° and 32° 30' N. lat.: it is called the district of the Paso del Norte. It abounds in excellent fruit, especially grapes, which, as well as the wine made of them, are in high repute all over Mexico. Wheat and Indian corn are grown extensively. The inhabitants are whites, but on the mountains and deserts, which extend on both sides of the valley, there are several independent Indian tribes, which are at enmity with the settlers.

Santa Fè, the capital, is a small town, with 3600 inhabitants. This is the first place that the Americans from St. Louis, in Missouri, come to after traversing the desert on the eastern side of the Chippewyan mountains.

Albuquerque has 6000 inhabitants.

Paso del Norte, the only town in the southern district, contains about 5000 inhabitants.

XXIII. The *State of Occidente*, or of Cinaloa and Sonora united,

comprehends the low plain which extends, along the Pacific, from 23° N. lat. northward to the banks of the Rio del Fuerte, and, in addition, the whole of the hilly region which lies north of it. The former once constituted the province of Cinaloa, and the latter that of Sonora. The country along the coast is generally low and flat, with a sandy soil, which, however, yields good crops of Indian corn and wheat when it can be irrigated. Some considerable lakes occur in this part of the State, at the termination of the hilly region, and receive several large rivers without having any outlet. The valleys of the hilly region are more fertile than the maritime district, and also much better cultivated, and more populous. The principal products are wheat, Indian corn, and sugar; cochineal is collected in small quantities. The mountains are usually without wood, and only covered with low stunted trees and bushes; but towards the Sierra Madre there are extensive forests. These mountains contain abundance of gold and copper. South of the Rio del Fuerte the population chiefly consists of whites, the number of Indians being inconsiderable: but to the north of the river the whites form only a small part of the population, the Indians being as 15 to 1 of the white inhabitants. The most numerous tribes are the Yaquis, the Mayos, Opatas, and the Apaches. They inhabit towns and villages of their own, separate from the whites, and are governed by their own magistrates.

Villa del Fuerte, the capital, situated on the banks of the Rio del Fuerte, contains about 4000 inhabitants.

Cinaloa, farther south, has 9500 inhabitants.

Culiacan, with 11,000 inhabitants, has a little trade.

Mazatlan is a good port, but it is not much visited.

Los Alamos, a well-built place, situated in a ravine, has 6000 inhabitants. There are rich mines of silver in the neighbourhood.

Guaymas (28° N. lat.) is the best harbour in Mexico, being protected on all sides by high hills, and capable of sheltering a large number of vessels. The water abreast of the pier is about five fathoms deep, and there are still deeper soundings farther off. The climate is healthy, and the commerce is increasing. It contains upwards of 3000 inhabitants.

Pitic is a place of considerable trade, and the depôt for the goods imported through Guaymas and designed for the northern districts of Mexico. It contains about 5000 inhabitants.

Arispe, with 3000 inhabitants, is situated in a country which contains numerous mines. Extensive ruins, called by the Spaniards Casas Grandes, are found to the north-west of this town, at no great distance from the banks of the Rio Gila, in a country which now is inhabited by the Apaches. They have only been visited by some missionaries, who say that they cover a surface of about six square miles, and that several edifices are still in a tolerable state of preservation, especially a large building, called La Casa Grande, the sides of which exactly face the

four cardinal points. The eastern and western fronts measure respectively 476 feet, and the northern and southern, 294 feet each.

XXIV. The *Territory of Lower California* comprehends the peninsula which is divided by the Gulf of California from the main land, and extends over nine degrees of latitude (from Cape S. Lucas, 23° to 32° N. lat.). Though it has an average breadth of 50 to 70 miles, it contains very few and limited tracts of land capable of cultivation; and so small a portion is under tillage, that the produce of the soil is not sufficient to maintain the scanty population (about 4000 souls). The fruits grown here are excellent, and much esteemed all over Mexico. The exports consist of dates, grapes, wine, and figs, besides soap, spirits made of mazcal, salt, and a few hides. The salt is taken from a lake in the island of Del Carmin. A small quantity of gold is got from a mine near La Paz. There are only a few whites among the inhabitants of the agricultural settlements; the rest of the population is almost entirely of the mixed race. In the mountains there are still a few tribes, which have no connexion with the settled inhabitants: they consist, however, of only a small number of families, and are in the lowest state of civilization.

Loreto, which is considered the capital, is a small place, not containing more than 250 inhabitants. It stands in a valley about 3000 feet wide. The harbour is unsafe, being open to all winds.

La Paz, farther south, has a population of about 2000 souls, including the adjacent mine of S. Antonio. Its harbour, called Picheluigo, is good, but can only receive small vessels.

XXV. The *Territory of Upper California* is considered to comprehend all the countries which lie to the north of the Rio Gila, between the coast of the Pacific and the range of the Chippewyan Mountains. Its northern boundary-line is the parallel of $42^{\circ} 30'$. But nearly the whole of these immense countries are still overrun by savage Indian tribes, who are independent of the Mexican government. Some of the tribes on the banks of the Rio Colorado and its tributaries, are said to have attained a considerable degree of civilization, to live in regular societies, and to inhabit extensive villages and large houses. But this information rests on the authority of two missionaries. All the settlements established by the Europeans, are along the coast of the Pacific, in the valley of the mountain tract which divides the Tule lakes from the sea, and only in those valleys which open towards the ocean. The most southern is at S. Diego ($32^{\circ} 40'$ N. lat.) and the most northern, in the Bay of S. Francisco (38° N. lat.) These settlements are at great distances from one another, and separated by rocky and broken tracts unfit for cultivation. The majority of the inhabitants are converted and civilized Indians, who live under the government of Monks in the missions. They cultivate the ground, and also apply themselves to the mechanical arts. Their number is stated to be about 27,000, yet it is said, that about

20 different languages are spoken by them. The whites live separated from them in villages, or pueblos, and cultivate the ground and rear cattle: their number is rapidly increasing. The principal articles of exportation are hides, the cattle being so numerous on the pastures of the hills and mountains, that 60,000 head are annually killed. There are also many sheep, but their wool does not yet form an article of export. Wheat is produced in abundance, and shipped to the ports of Mexico, and also some wine, especially that of the valley of S. Gabriel.

S. Diego, the most southern of the missions, has a good harbour, and exports a great quantity of salted hides.

S. Gabriel is situated in a fine and extensive valley, the agriculture and produce of which are rapidly advancing; its wine and fruits are much esteemed.

Monterey, a small town, but the only one in the country, is the seat of the government. It is situated in an extensive bay, which affords good anchorage in several parts.

S. Francisco contains several missions around the bay of S. Francisco; and as the country for a great distance from the bay is nearly level, and of considerable fertility, this district is rapidly increasing in population.

In 1812, the Russians formed an establishment within the boundary of Upper California, at a harbour called Bodega ($38^{\circ} 30' N.$ lat.), about 40 miles from S. Francisco, where they cultivate a fertile tract which extends several miles inland. This settlement is called Ross.

7. The state of the roads in Mexico shows the slow progress of improvement. It cannot be said that the surface of the country opposes greater obstacles to the making of good roads, than that of most countries of southern Europe. The steep declivity of the table land of Anahuac to the east indeed presents difficulties which may be compared with those that occur in the Alps; and there are also other districts in which similar difficulties exist: but the surface of the table lands themselves, though there are many ridges of hills upon them, spreads out into such extensive plains that the rugged portion is comparatively small, and even these hilly ridges have often a very slight elevation above the plains. A large part of the other dominions of Mexico consists also of extensive plains, either entirely level, or with a slightly undulating surface, on which there are very few hills. Such are the plains of Cuertlachtlan, of Monterey and Chihuahua, and the low country which extends along the Pacific in the state of Occidente. Yet in most of these places there are no carriage-roads, or if there are any, they are in so bad a condition, that they are scarcely ever used. Both travellers and merchandise are carried on horses and mules. This neglect of the roads may, in some degree, be attributed to the custom of using mules and horses which the Spaniards introduced from Spain into the New World, and partly to the abundance of these animals in the uncultivated districts: carriages

are thus rendered less necessary. To this must be added, that the first cost of roads would be high compared with that of conveyance by mules.

The road from Vera Cruz to Mexico is an exception to the general state of the roads. When Humboldt was in Mexico, this road did not exist, and 70,000 mules were employed in transporting goods between the two towns. But about that time, the Spanish government began to construct a wide road down the declivity of the table land. This road begins at Perote, and passes through Jalapa to the plain of Cuetlachtan. The most difficult part of it was finished by the Spaniards, namely, the road between Jalapa and Perote, so that carriages now travel from the former of these towns to Mexico. The civil wars and disturbances by which the country has been distracted since it threw off its subjection to Spain, have prevented the government from completing this useful work. Carriages can pass by the road between Jalapa and Vera Cruz, but not with comfort to the traveller, nor with advantage to the transport of goods, which are still exclusively conveyed by mules.

The roads of Mexico are infested by robbers; and it would be no easy matter to make them secure in a country so thinly peopled, and where the climate is so mild, that persons may pass their lives in the open air without any great inconvenience. Mexico is, in other respects, favourable to such a predatory mode of life. The extensive plains are traversed by ranges of hills, from which the robbers can survey their prey at a distance, and form an estimate of the degree of resistance which they may expect. They are thus also enabled to guard against any attempts to surprise or capture them.

No canals have been made in Mexico for the purpose of facilitating internal trade. Those which exist are only designed for irrigation, except that of Istacalco near the capital.

Recent travellers have given very little information as to the present state of the manufactures of Mexico. According to Humboldt, Mexico was the principal manufacturing country in America at the commencement of the present century. He states that the annual produce of the Mexican manufactures was estimated at seven or eight millions of Spanish dollars, or between £1,800,000 and £2,000,000 sterling. This estimate does not include the coarse goods made by the peasants for their own use, but only those made for sale.

Soap is the chief manufacture of Mexico, and the country possesses great advantage for this business. Tallow is very cheap, owing to the great number of cattle. The carbonate of soda abounds on the table-land of Anahuac, and in the plain of Chihuahua, as well as in many other places. Humboldt thinks that it might be brought to Europe with profit. Soap is made not only in the large established manufactories in Mexico, Puebla, and Guadalajara, but also in many other places. Even from the poor and thinly inhabited country of Lower California, soap forms one of the most important articles of export.

The manufactures of cotton and woollen stuffs were also considerable in Puebla, Querétaro, and Mexico at the time of Humboldt's visit. The State of Puebla alone manufactured cotton cloths and calicoes to the annual value of 1,600,000 Spanish dollars, which occupied 1200 weavers. The manufactures of Querétaro and those of Mexico and Guadalajara were not much less important. In the last-named state, the manufacture of cotton and wool together in Guadalajara and Lagos produced annually 1,600,000 Spanish dollars. As similar manufactures, though on a smaller scale, existed in some other places, it may be presumed that the whole produce of these articles amounted to the value of between five and six millions of dollars. The materials for this branch of industry are easily procured; the cotton is very good, but the wool is of indifferent quality. These manufactures, however, have decreased considerably since the country has obtained its independence, and commerce has been thrown open to all nations.

The manufactures of tobacco and gunpowder occupy a considerable number of persons. The government has reserved to itself these branches of industry as being an abundant source of revenue.

Among the manufactures of Mexico, Humboldt mentions utensils of silver and gold; and he says, that in no part of the world are they made in greater quantity, and of larger size. Even the smaller towns of the country have a comparatively large number of silversmiths and goldsmiths. These works are executed with much taste, a circumstance which may be chiefly attributed to the schools of the fine arts, established at Mexico, and at Jalapa. It is to be presumed from the comparatively unproductive state in which the mines of Mexico have continued during the last twenty-five years, and from other circumstances, that this branch of industry has much decreased.

The internal traffic of the Mexican States is considerable, as most of them have some peculiar products, which are wanted in the other states, besides which the transport of the produce of the mines occupies many persons. The trade of Mexico is principally conducted by land-carriage. The countries along the Gulf of Mexico are nearly without agriculture, and have very few commercial products; the peculiar nature of this coast also opposes great difficulties to navigation. For these reasons the domestic intercourse of the country is very little assisted by coasting vessels in the Gulf of Mexico. The country trade of the states on the shores of the Pacific is much greater; especially between the ports of Acapulco, S. Blas, Mazatlan, and Guaymas; but even here it is limited to the mutual exchange of a few articles of agriculture, and the transport of some of the more heavy articles imported from foreign countries.

The external commerce of Mexico is very considerable, though it does not occupy a large number of vessels on account of the great intrinsic value of most of its imports and exports in proportion to their bulk.

The exports consist of precious metals, of which the larger part is brought

to England, and the remainder is perhaps equally distributed between the Continent of Europe, the United States, and China and the East Indies. Copper is exported to China, but the quantity is not known. Cochineal is the next most important article of exportation. The quantity exported varies between 300,000 to 600,000 lbs. weight. By far the greatest quantity goes to Europe. Hides are principally exported from Upper California. The value of the jalap exported is estimated at about 50,000*l*, and that of indigo at somewhat more. The quantity of sugar brought to Europe is inconsiderable, though Humboldt thought that in a short time it would rise to a great amount. Coffee is exported to the United States, but not in great quantities. The value of the Campeche wood cannot be determined; the greatest part of it is, perhaps, brought from Bacalar to Belize, and thence to England. The smaller articles of export are, cotton, tobacco, sarsaparilla, and Indian corn. Mules are exported by land to the United States.

Among the imports the most considerable is quicksilver, of which more than 50,000 cwt. are annually consumed in the silver mines; it is mostly brought from Austria and Spain to England, and thence to Mexico. The woollen and cotton goods are nearly exclusively of English manufacture. Linen comes from Ireland, but the exportation from Germany, especially from Silesia, is also considerable. Iron, steel, arms, and machinery, as well as hardwares, are imported from England. Paper is a very considerable article of consumption, and the greater portion of it is used in manufacturing cigars; it is brought from Italy and France. Wines and brandy are imported from France and Spain. Most of the glass-ware is brought from Germany, and a little from England. Silk goods are chiefly imported from China, and some smaller quantities from France and Germany. Wax is brought from different countries of Europe, but olive-oil from Spain alone. Spices are imported in small quantities from the East Indies and China; hats from France and England; and earthenware from England only. Cocoa is brought from Venezuela and Ecuador, and it forms an important article of consumption.

The ports by which the external commerce is carried on are, Vera Cruz, Tampico, and Campeche; and the smaller ports of Alvarado, Huascualco, and Tabasco, in the Gulf of Mexico; and Acapulco, S. Blas, Guaymas, and S. Diego in the Pacific.

Vera Cruz, which formerly had the monopoly of all the commerce with Europe, now divides it with the other ports. The precious metals, which form the principal article of export, are generally sent from the port of Tampico, which is the nearest to the richest mining districts. The other exports, however, are mostly drawn from the countries to which Vera Cruz is nearest, and therefore they continue to be carried to this port for export; such as cochineal, jalap, vanilla, sarsaparilla, coffee, sugar, and

tobacco. By far the greatest quantity of imports are brought to this port. Tampico is a rapidly increasing place; its exports, in addition to the precious metals, are hides and dye-woods. The imports are, quicksilver and European manufactured goods, chiefly brought by the Americans. Campeche, whose foreign commerce was formerly limited to the exportation of Campeche-wood, seems to have risen greatly of late, but we are not acquainted with the amount of its exports. It imports many articles of European manufacture. Its coasting trade is also considerable, and it exports much wax to the other States.

Acapulco, which once alone carried on commerce with the East Indies and China, is now very little visited by foreign vessels. A few ships come from Guayaquil, Callao, and Valparaiso, with cocoa and drugs, for which they take in exchange sugar and cotton. Silk goods are imported from China, and spices from the East Indies, which are paid for in silver. S. Blas may now be considered the principal depôt of the merchandise brought from the East Indies and China; European vessels bring to it manufactures and goods of these countries, and receive silver in exchange. Guaymas receives considerable quantities of foreign merchandise, which are consumed in the mining districts of Sonora and Cinaloa; its exports consist chiefly of copper, which is sent to China, and of Indian corn. S. Diego, in Upper California, exports salted hides, and receives some European goods.

In the beginning of the present century, Humboldt estimated the value of all the exports of Mexico at 20,000,000 of Spanish dollars, or nearly 4,500,000*l*. Modern travellers have not given us such information on the state of the commerce as will enable us to form a correct estimate of it; but it hardly can be presumed that it has increased. The exportation of the precious metals has of late been to a much smaller amount than when he was there; and there is hardly a single object of agriculture the export of which has much increased. It may, therefore, be assumed, that between 1825 and 1830, the value of all the exports did not much exceed 3,000,000*l*., and perhaps it did not amount to that sum.

8. The Constitution of the Union is similar to that of the United States of North America. According to the law published on the 4th of October, 1824, every State preserves the right of changing and modifying its government as it thinks proper, provided it still has a republican form. The Congress of the Union consists of the President and the Vice-President, and of two legislative bodies, the Senate and the House of Representatives. The Senate is composed of twice as many members as there are states; every state sending two senators, who are elected by the legislative bodies of the state. The number of the members of the House of Representatives is not limited. Every district containing a population of between 40,000 and 80,000 inhabitants is entitled to choose a representative, and with this view a

census is to be made every ten years. The regular meetings of the legislative bodies begin on the 1st of January, and continue to the 15th of April; but whenever it seems necessary, they may prolong their sittings for another month. The President may call an extraordinary meeting of the legislative bodies, in which case he must set forth, in the notice for assembling them, the reason which induces him to take such a step. The representatives are elected for two years; the senators for four years.

The President, in whose hands the executive power is placed, is chosen by the legislative bodies of the different states. Every state must name two candidates, one of whom must not be a citizen of the state, and must send their names to the Congress, which declares that person to be duly elected, who has been chosen by the majority of the states. The Vice-President is chosen in the same manner. The President and Vice-President remain four years in office. The President appoints the Secretaries of State, and the officers in the army and navy; he is Commander-in-Chief of the Forces, treats with foreign powers, and causes the laws enacted by the Congress to be published and executed. But he is required to consult the Privy Council, in which every state is represented by one member.

The disputes arising between the United States or their citizens, are decided by a Superior Court, which consists of eleven members, chosen by the legislative bodies of the states. This Court has to explain the true meaning of the laws whenever they are obscure, and to determine the limits of the jurisdiction of the Federal Courts of the Republic. The crimes or misdemeanors of the senators, representatives, ambassadors, consuls, and other public officers of the first rank, are also tried by this court.

The finances of Mexico have never attained any degree of order, the revenue of the Republic having always been considerably below its expenditure. In 1830, the expenses of the State amounted to 17,438,540 Spanish dollars, whilst the taxes yielded only 12,815,000 dollars. According to the budget of 1832-3, the expenses required a sum of 22,392,508 dollars, but the revenues were expected to produce only 17,256,882.

The army consisted, in 1831, of 23,437 soldiers of the line, of which about 10,000 were cavalry; and of 37,573 militia. A considerable number of the militia are constantly in active service against the independent tribes of Indians, which inhabit the northern territories of the Republic. The Navy consisted, in 1827, of one line-of-battle ship, one frigate, ten corvettes, six brigs, four schooners, and other small vessels; in all, twenty-three sail.

9. Mexico was discovered by Francisco Hernandez Cordova in 1517, who sailed along the coast from Cape Catoche to Campeche Bay. In 1518 Juan de Grijalva extended the discovery northward to the mouth

of the Rio Panuco. In 1519, Hernandez Cortes brought over from Cuba a small force, with which he defeated the numerous armies of Montezuma, more correctly called Moctezuma, the sovereign of the Azteks, to whom a great portion of the table-land and of the low eastern coast also was subject. After a hard struggle for two years, the empire of the Azteks was destroyed, and the natives submitted to the Spaniards. The Spaniards maintained undisturbed possession of the country till 1810, when the events which had then recently taken place in Spain brought about an insurrection among the mestizos and natives. After various movements peace was re-established in 1817, and the country was again brought under the rule of Spain. But the events which occurred in Spain in the beginning of 1820 produced such an effect on the minds of the Creoles, that they proclaimed the independence of Mexico, and offered the crown to one of the brothers of the king of Spain. This step being opposed by the then government of Spain, the Mexicans chose Don Augustin de Iturbide for their emperor, under the title of Augustin I., in 1822. Iturbide soon disagreed with the national representatives, and in the same year dissolved that body. This brought about an insurrection, which compelled Iturbide to abdicate. A national congress was then summoned, which made and enacted the constitution of 1824. This constitution, however, not being quite in accordance with the state of society, there has been a continual struggle between the parties who wish to preserve the form of the federal republic, and those who wish to give to the congress the power of a central government. Though the latter party has recently gained the ascendancy, the matter is far from being settled.

Authorities: Humboldt, *Essai Politique sur a Nouvelle Espagne*; Poinsett's *Notes on Mexico*; Ward's *Mexico in 1827*; Hardy's *Travels in the Interior of Mexico*; Lyon's *Journal of a Residence and Tour in the Republic of Mexico*; *A Sketch of the Customs and Society in Mexico*; Pike's *Exploratory Travels through the Western Territory*; *Constitucion Federal de los Estados Unidos Mexicanos*; Coulter, Vetch, and Galindo, in the *London Geographical Journal*, Vols. III., VI., and VII.; Becher's *Mexico in den Jahren 1832 and 1833*.

TEXAS.

1. *Boundaries, Situation, Extent.* 2. *Coast and Harbours.* 3. *Surface and Soil.* 4. *Rivers.* 5. *Climate.* 6. *Productions.* 7. *Inhabitants.* 8. *Towns and Settlements.* 9. *History.*

1. THE boundary line between Texas and the Mexican republic cannot at present be fixed, but we may consider it as formed by the lower

course of the Rio del Norte, up to the place where it is joined by the Rio Puerco, and thence northward by the Sierra de los Comanches. The boundary-line between Texas and the United States of America was determined by treaty between the United States and the Spanish government in 1818: it runs on the north along the upper course of the Arkansas River to 100° W. long., which meridian it follows south to the Red River. It then follows the course of that river to the meridian of 94° W. long., along which it extends until it meets the Sabine River. The last-mentioned river constitutes the remainder of the boundary to its mouth in the Gulf of Mexico. Within these lines Texas extends from east to west about 500 miles, and from south to north 700 miles west of 100° W. long., and 400 miles east of that meridian. Its surface is more than 260,000 square miles, or more than treble the surface of Great Britain. It lies between 26° and 38° N. lat., and between 93° and 106° W. long.

Texas is admirably situated for constituting an independent and separate state, being on all sides surrounded either by a mountain range or by deserts, or by countries unfit for agriculture. Within its boundaries, between the lower course of the Rio del Norte and the river Nueces, is situated the most northern portion of the Plain of Chihuàhua, which occupies the most northern parts of the Mexican Isthmus, and is nearly a desert. This desert extends to the place where the Rio Puerco joins the Rio del Norte, and to the Sierra de Comanches, which extends northward and is divided into two high ridges, and, so far as is known, is nearly impassable. That portion of Texas which is north of the Red River constitutes a part of the Great Desert, which stretches along the base of the Chippewyan Mountains as far north as 45° N. lat., and eastward to about 97° W. long. Contiguous to this desert, on the east, is a hilly country covered with pine forest, and of very inferior fertility. It extends on both sides of the Sabine River nearly to its mouth, where a grassy swamp occurs. East of these sterile districts are the prairies of Opelousas and Atacapas, which appear to be unfit for agriculture, and are followed by the swampy desert of the Delta of the Mississippi. Thus Texas is surrounded by a broad belt of sterile countries, and constitutes, as it were, an oasis in the desert.

2. The sea coast, which is about 500 miles in extent, is low, and generally formed by narrow islands or peninsulas, which are divided from the shores of the main land by lagoons running parallel to the coast, but in some places branching off many miles inland. These lagoons constitute harbours, but they are not generally deep enough to admit large vessels, and they have bars at their entrance. The best of these harbours is Galveston Bay, formed by Galveston Island which is about 30 miles long, and from 3 to 5 broad, and shelters the harbour from the winds. The principal entrance, which is at the eastern extremity of the island, is half-a-mile wide, and has from 12 to 16 feet of water on

the bar. The water deepens to from 18 to 30 feet within the bay, but near the middle, the bay is crossed by shoals, called the Red Fish Bar, on which there are only from 3 to 5 feet of water. The entrance at the western extremity of Galveston Island has only from 3 to 5 feet of water. On the bar at the mouth of the Rio Brazos there are only from 4 to 6 feet of water; but the bar is not more than 20 yards wide, and inside the bar the river is sufficiently deep for large ships as far as Brazoria. The Paso Caballo, or entrance to the bay of Matagorda, has 12 feet of water on the bar, but the bay itself is shallow, and larger vessels cannot approach the mouths of the rivers Colorado and La Baca. Farther west is the Bay of Aransaso, the bar of which is said to have about 5 feet of water, but the bay is reported to be deeper than either that of Galveston or of Matagorda. The entrance into Nueces Bay, and the bay itself, are said not to be inferior to that of Aransaso. Thus Texas has four harbours superior to all those of the United States of Mexico, along the shores of the Gulf of Mexico, with the single exception of that of Tampico; and the United States of North America have only two harbours on the Mexican Gulf which are better, namely, the East Pass of the Mississippi and the Bay of Pensacola.

3. On the margin of the lagoons the country is level and low, and in some parts marshy, being subject to inundations. But the marshes are much less extensive than farther east on the shores of the United States. This low tract is destitute of trees with the exception of some narrow belts along the margins of the water-courses. It extends about 10 miles inland from the margin of the lagoons. In the dry tracts it exhibits signs of considerable fertility.

At the back of this low tract the country rises gradually to the height of thirty or forty feet, when it stretches out in a plain, which extends east of Galveston Bay to a distance of 30 miles inland, and between Galveston Bay and the Rio Guadalupe to 80 or 100 miles; south of the Rio Guadalupe Bay it advances only from 20 to 25 miles inland. This plain is properly a prairie without timber, but covered with fine grass, which supplies excellent pasturage for every kind of domestic animals. The prairie, however, occupies less than half the surface of this region, being furrowed by a great number of rivers, the bottoms of which are comparatively very wide, those of the smaller rivers being usually three miles across, while the bottoms of the larger rivers are from 10 to 15, and even 20 miles wide. These bottoms, in their natural state, are either covered with trees, whose growth indicates a strong and fertile soil, or with extensive cane-brakes. Though the soil is alluvial, it is generally quite free from swamps or stagnant pools, as the rivers have sufficient fall speedily to carry off the water which is left by the inundations. The trees which grow on these bottoms are chiefly live oak, red, black, and other species, with cedar, pecan, elm, mulberry, and all the other varieties of forest trees and undergrowth common in the rich alluvial soil of

the Mississippi. The proportion between the prairies and the rich bottoms adapts this region perhaps more than any other for a high degree of agricultural prosperity. Nearly all the settlements which have been already made, are within its limits. The western and narrow portion of it which lies to the south of the Rio Guadalupe is much more destitute of trees, as the country rises higher above the water-courses, and the bottoms are much narrower; but the upland prairies are said to afford excellent pasturage.

The country which lies to the north of this region, and is from 150 to 200 miles wide, is much more elevated, and varies considerably in fertility in different districts. In the most north-eastern district of Texas the soil is rather sandy, and covered with continuous pine-forests: the surface is broken, and in some parts even hilly; these pine-forests extend on both sides of the Sabine River as far west as the source of that river and a line drawn from it northward to the banks of Red River. They form a part of the extensive forest which spreads over the north-western corner of Louisiana, and over the middle districts of Arkansas to the sources of the Washita River and the Masserne Mountains. West of the sources of the Sabine River begins a broad and elevated swell of land, which is nearly uniform in elevation, but grows higher as it advances farther west, along the banks of Red River. Its width may be about 60 miles on an average. It is covered with a scanty and coarse grass, and destitute of trees, except in the depressions, in which the rivers run. The space between it and the level country farther south may, on an average, be 120 miles wide; its surface is undulating, resembling some parts of England, and the undulations rise in many parts into eminences of considerable elevation, but always with a gentle ascent and with long intervals of level ground. Abrupt elevations are rare, and the surface is nowhere so broken as to be called hilly. The greater part of this country is prairie-land, without trees, which occur in the uplands only, on the tops and slopes of the eminences, in clumps or groves of cedar, oak, or pecan. The level grounds are clothed with nutritious grass, which affords good pasturage, especially for sheep and horses; but water is scarce. The river-bottoms are more depressed below the level of the uplands, of less extent, and much less numerous, than in the region farther south. They probably do not occupy one-fifth of the country, but they are exceedingly fertile.

That portion of Texas only, which lies west of 99° W. long. and south of 37° N. lat., can be called hilly and mountainous. Between it and the level tract near the sea there is also an undulating country, which partly resembles that lying farther east, but at no great distance it rises into hills, which attain the elevation of mountains west of 100° W. long., and are known by the name of Sierra de San Saba. They are a part, or an offset, of the eastern ridge of the Sierra de los Comanches, which separates the vale of the Rio Puerco from the country in which nearly all

the larger rivers of Texas originate. It appears that the whole of Texas west of 100° W. long. is full of ridges of high hills and mountains, all of which are probably connected with the Sierra de Comanches. The most elevated portion lies between 29° and 32° N. lat., between the lower course of the Rio Puerco and the upper course of the Colorado, about the sources of the Rio Nueces; and this elevated mountain tract is properly called Sierra de San Saba. The natural capabilities of this extensive district are not known, as it is still in the exclusive possession of the Comanches, a native tribe of great courage and activity. The hilly country which extends south and north along its eastern base, with an average width of 150 miles, contains many tracts of good pasture-grounds; but in general it suffers from want of water, and is destitute of trees: several districts, however, are covered with the nopal tree, which thrives best in an arid soil.

The most northern portion of Texas, which is included between the upper courses of the Red and Arkansas Rivers, constitutes the most southern portion of the Great Desert. The soil is arid, and the surface either level or covered with eminences of sandstone. In some parts it is composed of lava and other volcanic products; and in others it is coated with a thin layer of salt incrustations. The whole region is without trees, except along the base of the Chippewyan mountains; even the bottoms of the rivers are sandy, and are frequently without vegetation. All the rivers, and among them the Canadian River, an affluent of the Arkansas, have only a permanent current in the vicinity of the Chippewyan mountains; farther east their bed is dry, except in the earlier part of the year, after the melting of the snow, and after some days of rain. The coarse grass, with which the plains are covered for the greatest part of the year, affords abundant food to buffalo, and several kinds of deer, and horses; and the berries of some shrubs nourish a great number of bears and wild turkeys. Though some tracts appear to have a good soil, the want of water and of wood renders them unfit for agricultural purposes.

4. Texas owes its great fertility chiefly to the numerous rivers which water it, and have deposited on their extensive bottoms a deep layer of alluvial soil. This soil is, in most parts, still subject to inundations during the spring; but as the bottoms themselves have a sufficient slope towards the beds of the rivers, and the rivers a sufficient fall in their current to carry off the waters, a few weeks are sufficient to clear the bottoms from water, and to render them fit for agricultural labour. For the same reason the atmosphere of these tracts is not infested by noxious exhalations. Though the rivers are rather swift in the upper parts of their course, they are generally free from rapids and other obstructions to navigation. Nearly all the rivers which drain the southern and fertile portion of Texas originate in the Sierra de San Saba, or in the mountain-tract contiguous to the north of it.

The most remarkable *Rivers* from west to east are the following :—The Rio Nueces rises in the Sierra de San Saba, and after a course of about 300 miles falls into Nueces Bay ; it is navigable for the greater part of its course. The rivers S. Antonio and Guadalupe, which unite not far from their mouth in Aransas Bay, flow more than 250 miles, and are navigable to a great extent. The Colorado River rises in the Sierra de los Comanches and runs for nearly half its course eastward, and for the remainder to the south-east. It is supposed to flow more than 400 miles, and falls into Matagorda Bay. About 10 miles from its mouth it is obstructed by a raft of drift-wood, which fills its bed and causes the water to be divided into several channels. Above this raft the river is navigable for above 150 miles, but higher up numerous small falls occur. The Brazos, or Brazos de Dios, has its source in the unknown region where the Red River rises. It soon enters an extensive plain, the soil of which is impregnated with salt and nitre, and the surface in the dry season covered with crystallizations of salt. During the rains the river inundates the plain, and changes it into a shallow lake. The salt is thus dissolved, and for some time after the water of the river is brackish nearly to its mouth. During the freshets the current is very rapid, but at other times gentle and deep. The tide is perceptible at Bolivar, 60 miles from the mouth of the river by water, and 45 by land, and so far upward its depth varies between 18 and 30 feet. The course of the Rio Brazos, according to a rough estimate, is 500 miles. The Rio Trinidad rises in the elevated country which extends along the southern banks of Red River, and has a course of about 350 miles, in a general south-south-west direction. It is navigable more than 200 miles from its mouth in Galveston Bay for six months in the year. The Rio Naches rises between the Rio Trinidad and Sabine River, and runs about 150 miles, until it falls into Lake Sabine ; it is easily navigated above 100 miles from its mouth. The Sabine River, which, for 200 miles, separates Texas from the State of Louisiana, originates in the elevated country that skirts the southern banks of Red River ; it runs first east-south-east parallel to Red River, and afterwards to the south. Nearly 40 miles from its mouth it spreads into a shallow lake, 30 miles in length, and from 3 to 5 miles wide. This lake, into which the Rio Naches falls, is in the middle only 4 or 5 feet deep, and much less near the shores. The Sabine River issues from its southern extremity and flows about 6 miles to its mouth in the Gulf of Mexico ; in ordinary tides there are only 3 feet of water on its bar.

The Red River, an affluent of the Mississippi, constitutes the boundary line between Texas and the United States for about 400 miles. In the month of February, March, and April, it is a large river, which carries down a great volume of water, but it diminishes rapidly, and towards the end of the year the water is reduced to a very small quantity. The two branches of the Canadian River and the Arkansas River, which

traverse the northern sandy desert, have also much water during the melting of the snow, but in summer their beds are usually quite dry.

5. Texas, being situated without the tropic, has its dry season in summer, and its rainy season in winter. Little rain falls from the 1st of April to the end of September on the prairies, and frequently none at all, but in the valleys along the river-courses and in the low lands showers are not uncommon. During this season the southerly wind greatly prevails; it blows steadily and with considerable force, especially on the unsheltered prairies. This wind begins soon after sunrise, and gradually increases till three or four o'clock, when it subsides, and is followed by a calm. The intolerable heat with which this calm is attended shows how much the high temperature is moderated by the wind. Shortly after sunset a slight breeze rises, and the air gradually gets cooler until midnight; after midnight the refrigeration goes on more rapidly, and warm coverings are required. The thermometer ranges between 63° and 103° ; it is generally 73° at nine o'clock, 83° at twelve o'clock, and 77° at three o'clock. This season is usually very healthy, except when the wind turns to the south-east, and blows over the swamps of Louisiana.

In winter, from October to March, the wind blows from the north. In December and January it is nearly as constant and strong as the southern wind in summer, but in October and November, and also in February and March, it blows rather from the north-east, and alternates with southerly winds. During this season much rain falls, and it sometimes pours down in great abundance, especially on the prairies. The mountains are covered with snow, and a good deal of snow and frost is experienced in the more elevated districts, though it does not continue long. The changes in the weather are very great in February and March. During a southerly wind the thermometer sometimes rises to 75° , and, when then the wind suddenly turns to the north, it is stated that it sometimes sinks as low as 25° ; but this is probably an exaggeration.

6. Till recent times Texas remained almost entirely in a state of nature, and its agricultural capabilities are at present imperfectly known. It is however well ascertained that sugar and cotton may be grown with advantage in the lower country. The cotton is said to be better than that which is raised in Louisiana and Arkansas. Rice, Indian corn, wheat, and other grains succeed very well; also beans, peas, potatoes, and other vegetables. The few attempts which have been made to cultivate fruit-trees have succeeded very well. Many of the forest-trees supply fruits in abundance, as the mulberry, the crab-apple, the plum, the cherry, the sweet gum, the peach, the butter-nut, the walnut, the hazel-nut, the beech-nut, the chesnut, the hickory-nut, and especially the pecan-nut, which supplies the farmers with an article of sale. There is a great variety of vines, and some species produce excellent grapes. It would seem that Texas is particularly adapted to the cultivation of the

vine. The extensive forests abound in trees, which are useful for domestic purposes; many of them supply good timber, as the live oak, cedar, and pine. The amount of the valuable timber called the live oak is said to be greater than in any other part of North America.

Cattle are increasing rapidly in number, owing to the extensive prairies, which make excellent pasture-ground. Sheep are reared on the more elevated plains towards the Red River, and also on those between the Rio Nueces and the Rio del Norte. In the last-mentioned district the wild horse, called *mustang*, is still numerous. Numerous herds of buffaloes pasture in summer on the desert plain between the Red River and Arkansas, and in winter migrate southward, traversing the mountain-region of San Saba, and feeding on the plains near the Rio del Norte. The panther and the spotted leopard are still frequently met with; the Mexican cougar* is more rare; wild cats are numerous. Black bears, wolves, and foxes are still found; deer also are plentiful. The peccary or Mexican hog is occasionally found. Rabbits, squirrels, opossums, and racoons abound in most places. Among the numerous kinds of birds is the wild turkey, which is found in the woods and near the edges of the prairies. In the winter season the lagoons and ponds near the coast are literally covered with wild fowl, such as swans, geese, and ducks. Great quantities of honey are annually gathered.

Some silver-mines were formerly worked on the eastern declivity of the Sierra de San Saba, but they have been abandoned. Copper is found in the elevated country between the Brazos and Red River. Iron occurs in several places, and also lead. Salt abounds along the upper course of the Brazos, and between the Rio Nueces and Rio del Norte there are numerous salt lagoons. Salt springs and licks are frequent, and salt is also extracted from the water of a spring near the mouth of the Brazos. Coal has been found in several places.

7. The population, exclusive of the native tribes, is vaguely estimated at 80,000; only about one-tenth of this number, or about 8000, are stated to be of Spanish or Mexican origin. Their settlements are only on the west side of the Rio Guadalupe. The remainder consist of emigrants from nearly every nation of Europe, but by far the greatest number are Anglo-Americans who have emigrated from the United States, and have brought to Texas negro slaves, who perhaps amount to 2000 or 3000.

Several native tribes still wander about in the country. Most of them live by the chase, such as the Comanches, Caddos, Wacos, and Tou-wacones. Others have fixed habitations, and principally apply themselves to agriculture. Such are the Cushatees, who live in villages on both sides of the Rio Trinidad, in well-constructed houses, surrounded by peach-trees. They cultivate their gardens and fields, and raise

* There is an evident confusion in these names, which are given on the authority of Texian travellers.

horses, cattle, hogs, and poultry. Among the wandering tribes the Comanches are the most numerous. They are still the exclusive possessors of the mountain-region of San Saba, and do not permit the whites to enter their territory. They have no agriculture, and depend for their subsistence entirely on the chase of the buffalo. When unsuccessful they subsist on the flesh of wild horses, with which their country abounds; they also use them for the saddle, and are excellent horsemen. Several families belonging to the Chocktaws and Chickasaws, two tribes which have been removed by the American government to the west of the Mississippi river, have settled in the northern districts of Texas; they cultivate the ground, raise Indian corn and potatoes, and rear cattle. In the plains of the desert are the wandering tribes of the Kiawa, Shiennes, Arrapahoes, and others: they appear to consist only of a small number of individuals, and subsist on the produce of the chase.

8. As this country has only been settled within the last twenty years by an agricultural people, the settlements are dispersed over the country and at great distances from each other. The town of Bexar, on the Rio San Antonio, was considered as the capital of the country in the time of the Spaniards. It is the depôt of American and European goods designed for the market of the northern states of Mexico; the population amounts to between 3000 and 4000 souls, nearly all of whom are native Mexicans. In the neighbourhood of this place many Spanish families are settled. S. Patrick, on the Rio Nueces, a town lately founded, is very thriving. On the shores of the bay of Matagorda and near the mouth of the river Colorado is the town of Matagorda, which is rapidly improving. Three towns have been founded on the Rio Brazos. S. Felipe de Austin may be considered as the present capital of the country, and has already a population of 2000 souls, though it was settled only in 1824. The two other towns, Columbia and Brazoria, seem to be in a thriving condition. On the river Trinidad is the town of Liberty, and on the western shores of Galveston Bay the town of Anahuac; the latter is rapidly increasing in wealth and population. There is no considerable place along the great road which runs from Bexar to Nachitoches in Louisiana, except Nacogdoches, which is built on one of the upper branches of the Naches. It was formerly a military establishment of the Spaniards. In 1819 it was entirely broken up and abandoned, but it has since recovered, and may now contain between 2000 and 3000 inhabitants.

9. In the eighteenth century Texas was nearly unknown, having only been occasionally traversed by the Spaniards, when New Orleans belonged to them, in their way from and to Mexico. About the beginning of the present century there were only two or three small military establishments, near which a few Spaniards had settled, and they were at great distances from each other. In 1807 Pike made it known that this country was distinguished by fertility of soil. From that time many

citizens of the neighbouring States of the American Union wished to form settlements in Texas, but the policy of the court of Madrid was not favourable to their designs. No sooner however had Mexico obtained its independence than it adopted a liberal system of colonization, inviting (in 1824) natives and foreigners to settle within the territories of the republic under very advantageous conditions. In a few years a large and by far the best portion of the country had been granted to several individuals, Mexicans and Anglo-Americans, who settled several families in the most advantageous positions on their grant. The first settlement was made by Colonel Austin in his grant on the Rio Brazos, and called S. Felipe de Austin. About this time the stream of emigration from the United States of North America turned towards Texas. Ten years after the first grant had been obtained, the number of Anglo-Americans exceeded that of the Mexicans three or four times. Several of the landed proprietors had introduced slaves, against the laws of the Mexican Confederation, which seems to have been the first cause of dispute. But this very circumstance procured for the Texians the active support of the southern American States, who wished to unite this country with the North American Confederation, in order to have a greater preponderance in the Legislature. About this time (1834) there was in Mexico a struggle of parties for a federal or central government, and the Texians insisted on a separation of their country from the State of Cohahuila, to which it belonged. This request being refused, they immediately took up arms in defence of what they considered their rights and liberties, and the republican principles of the federal constitution of 1824. The few Mexican soldiers stationed at Bexar were obliged to leave the country in December, 1835, with considerable loss. The president of the Mexican republic, Santa Anna, however marched into Texas at the head of a small army. He succeeded in getting possession of Bexar, the garrison of which he put to the sword, but in 1836 he was defeated on the banks of the river San Jacinto, with great slaughter, by half the number of Anglo-Americans, and taken prisoner. The Mexican government, in spite of the struggle of parties, which was not conducted without bloodshed, raised another army for the purpose of subjecting the rebels, but this force was diverted from its destination by the war which the French government declared against the Mexican republic. No effective attempt has since been made by the Mexicans, and the Texians have profited by this opportunity to establish a regular government on the model of that of the United States, with a president at the head.

The independence of Texas was formally declared early in March, 1836, and, though Mexico has not abandoned its rights to this country, there is no doubt that Texas will be able to maintain itself as a sovereign State.

[General Wavel in *Ward's Mexico in 1827*, Appendix; Holley's *Observations on Texas*; O'Neill's *Guide to Texas*; Edward's *History of Texas*, Cincinnati, 1836.]

THE UNITED STATES OF NORTH AMERICA.

I.—Relative Situation, Extent, Boundaries, Coasts, and Islands.

THE territory claimed by the United States extends entirely across the American Continent, from the 67th to the 133d degree of west longitude. On the Atlantic Ocean it reaches from the 25th to the 45th parallel of north latitude, and on the Pacific from the 42d to the 54th parallel.* Its length east and west is 2750 miles; its greatest breadth, from the Gulf of Mexico to the northern boundary is 1340 miles; and its least, near the Rocky Mountains, is 486 miles. The area is 2,369,794 square miles.

This vast region is bounded on the east by the Atlantic Ocean, from the Florida Cape to the River St. Croix, in Passamaquoddy Bay: on the north east, by the River St. Croix, to its source, and thence by a meridional line to the Highlands which divide the waters of the St. Lawrence from those of the Atlantic: on the north by Lower and Upper Canada, and the other British possessions on this Continent, according to a dividing line which begins at the north-east corner in the Highlands, and follows them in a south-west course until they reach the 45th parallel; thence the line runs along that parallel, until it strikes the River St. Lawrence 120 miles below Lake Ontario. The line then follows the St. Lawrence up to Lake Ontario; passes through that lake, the lakes Erie, St. Clair, Huron, and Superior, as well as the straits which connect them to La Pluie or Rainy Lake river; it then ascends that river to the 95th degree of west longitude, and the 49th parallel of latitude; and follows that parallel to the Rocky Mountains. These mountains are then the boundary as far as 54° 40' north, and the line proceeds by this parallel to the Pacific, the coast of which is the boundary to the 42d parallel. On the south-west, the line which separates the United States from Mexico, runs alternately east and south from the Pacific to the Mexican Gulf, proceeding first along the 42d parallel to the Rocky Mountains; thence south by a meridional line to the source of the Arkan-

* The western boundary of the United States is still unsettled. By the convention with Russia in 1824, the claims of the United States on the Pacific coast are limited to 54° 40' north: and they assert a right to all the country south of that to the 42nd parallel, under their several treaties with France, Spain and Mexico, and by the right of discovery; but a part of the same coast is claimed by Great Britain.

sas River, which it follows to the east as far as the 100th degree of west longitude; thence by a line due south to Red River; thence further east along that river until it reaches the meridian (94°) which connects it with the Sabine river; and thence by the course of that river south to the Gulf of Mexico, which forms its boundary to the Florida Cape.

The length of the entire boundary line is 10,872 miles; of which 6644 miles are inland, and 4228 miles are sea coast; or it may be otherwise distributed thus:—

The line which separates the United States from the		
British possessions is	.	3,834 miles
From the Territory claimed by Russia and Great		
Britain	.	480
From Mexico and Texas	.	2,330
		<hr/>
		6,644
Length of Coast on the Atlantic	.	2,145
on the Gulf of Mexico	.	1,183
on the Pacific	.	900
		<hr/>
		4,228
		<hr/>
		10,872

Coasts.—The Atlantic coast, from Long Island to Cape Florida, and from that cape along the shores of the Mexican Gulf to the river Sabine, presents to the eye of the mariner one low level line of sand covered with forest, extending as far as the eye can reach. It is, however, indented here and there with deep bays and harbours, both capacious, and accessible. North and east of Long Island the coast becomes high, rocky, and broken; the shore is bolder; and good harbours are more numerous. This circumstance has, no doubt, contributed to give to that part of the Union its maritime character.

There are three prominent points on this part of the Atlantic coast: Cape Florida, in lat. 25° , Cape Hatteras, in 35° , and Cape Cod, in 42° ; which, with Cape Sable in Nova Scotia, terminate three great curvatures of the coast, of which the most southern has the greatest length and depth, and the most northern, the least. The lengths of these curves are, respectively, 895, 660, and 490 miles.

Bays.—The principal bays of the United States on the Atlantic are, that of *Passamaquoddy*, which is common to them and New Brunswick. It is 12 miles wide, and 6 deep. *Penobscot Bay*, lying further south and west, and extending inland 30 miles from north to south. *Massachusetts Bay*, lying between Cape Ann and Cape Cod, is about 40 miles from north to south: it includes the bays of Boston, Plymouth, and Cape Cod, together with several fine harbours. *Narraganset Bay*, lying

principally in the state of Rhode Island, is about 30 miles deep. *Delaware Bay*, between the States of New Jersey and Delaware, terminated by Cape May on the north, and Cape Henlopen on the south, is more than 60 miles long, and 30 broad in the widest part: it is 18 miles wide between the two capes. *Chesapeake Bay*, by far the largest of all, is 200 miles long from north to south, and from 7 to 20 miles wide. Its entrance between Cape Charles on the north, and Cape Henry on the south, has a width of 15 miles. This bay contains many excellent harbours, and is generally 9 fathoms deep.

In the Gulf of Mexico the whole line of coast of Florida, Alabama, Mississippi, and Louisiana presents a continual succession of bays, inlets, and sounds. The most considerable of these are the bays of *Appalachie*, *Appalachicola*, *Choctawatche*, or *Choctaw*, and *Pensacola*, in West Florida, and the *Bay of Mobile* in Alabama. Of these, *Pensacola Bay*, 30 miles long, and from 4 to 7 wide, affords the best harbour on the Gulf shore.

The coast of the Pacific is not yet accurately known. The best harbour appears to be the æstuary at the mouth of the Columbia River, in lat. $46^{\circ} 13'$.

Islands.—There are numerous islands along the coast of Maine, of which the largest is *Mount Desert*, on the west side of Frenchman's Bay. It is 15 miles long, and 12 broad. In Penobscot Bay are *Long Island*, the *Fox Islands*, and *Deer Isle*. *Nantucket*, lying 20 miles south of Cape Cod, is 15 miles long, and 11 broad. South-east of this island are the Nantucket shoals, a sand reef 50 miles in length. *Martha's Vineyard*, an island to the west of Nantucket, is 20 miles long by 10 broad. The *Elizabeth Islands*, a group to the north-west of Martha's Vineyard, form the south-east side of Buzzard's Bay. In Narraganset Bay are *Rhode Island*, 15 miles long, *Conanicut*, 8 miles, and *Prudence Island*, 6 miles. *Block Island*, lying out to sea, about 10 miles from the coast, is 8 miles long. *Long Island* lies south of the Connecticut coast, thus forming a sound from about 3 to 22 miles wide. It is connected with New York Bay by a strait called East River, about 25 miles long. The Island extends 120 miles from east to west, and its greatest breadth is 20 miles. Some small islands lie near its eastern extremity. *Staten Island* lies at the mouth of New York harbour, and is 13 miles long, by 5 broad. The City of New York itself stands on an island, formerly called *Manhattan*, which is 15 miles long, and from one to two miles broad; but a bridge over a narrow strait connects it with the main land. There are a number of islands in the Chesapeake Bay, the most considerable of which is *Kent Island*, opposite Annapolis, which is 12 miles long.

A series of low sandy islands are ranged along the coasts of Maryland, Virginia, and North Carolina, forming channels and sounds between them and the main, which are navigable for small vessels. Further

south, along the coast of South Carolina and Georgia, these islands are more numerous, and being well adapted to the culture of cotton, are thickly inhabited.

Many small islands are scattered along the shores of Florida. A large cluster of them lie to the south-east of the Peninsula; and one of them, *Key West*, has acquired importance by becoming a naval station of the United States. The rest of the group, together with those which lie along the coast of the Mexican Gulf, have too little present value to deserve a more particular notice.

II.—*Natural Features, Mountains, Rivers.*

Two ranges of mountains, composed of several distinct ridges, stretch obliquely across the territory of the United States. The Alleghany or Appalachian chain runs, like the Atlantic coast, nearly north-east and south-west, but recedes further and further from the Atlantic as it proceeds to the south; the other called the Stony or Rocky Mountains, runs north-west and south-east, about 460 miles from the Pacific. From the Appalachian range the land has a general south-eastern slope to the Atlantic. From the Rocky Mountains, it has a steeper western slope to the Pacific. Between the two ranges is formed an immense basin or valley, which, narrowing as it descends to the south, is drained by the Mississippi, the Missouri and their numerous tributaries, together with some smaller streams which flow directly into the Gulf of Mexico.

The Appalachian range, consisting in some places of one or two distinct ridges, and in others of many, passes under different names in different parts of the United States. Thus it is called the White Mountains in New Hampshire, the Green Mountains in Vermont, the Catskill in New York, the Blue Ridge and Alleghany in Pennsylvania and Maryland, the Cumberland Mountains in Tennessee; besides the various designations that have been given to lower and less important ridges belonging to the same system. The length of the chain from Maine to Alabama is nearly 1200 miles. It varies in breadth from 20 to 100 miles, but its elevation rarely attains 4000 feet, and is often below that height, except in the mountainous region west of Lake Champlain, where the Hudson has its source, which contains several summits above 5000 feet, and except in the White Mountains of New Hampshire, the highest summit of which is 6234 feet.

The great western range is on a larger scale, and is of far greater length. Its base is computed to be, in some places, 300 miles broad, and many of its summits are above the point of perpetual congelation.

There are other considerable ranges of mountains, west of the Mississippi, of inferior elevation, and supposed to be unconnected with the Rocky Mountains, as the *Ozarks*, lying west of the Mississippi, and running like the Alleghanies from north-east to south-west: they begin

on the south side of the Missouri near its mouth, and crossing the Arkansas territory, terminate south of Red River. Their height is from 1000 to 2000 feet. The *Black Hills* are another range, running nearly parallel to the Ozarks from a higher point on the Missouri to the Rocky Mountains, but their height has not been ascertained. There is also a range of mountains, or perhaps several ranges, between the Pacific and the Rocky Mountains, but they have been too imperfectly explored for their length, breadth, height, or even general direction to be known, though the last is supposed to be parallel to the great western range.

Of the rivers which take their rise in the Appalachian chain and flow into the Atlantic or the Mexican Gulf, the largest are the Penobscot, the Kennebec, the Merrimac, the Connecticut, the Hudson, the Delaware, the Susquehanna, the Potomac, James River, the Roanoke, the Neuse, Cape Fear River, the Pedee, the Santee, the Savanna, the Alamaha, the Appalachicola, and the Mobile. The situation, course, length and embouchure of each are as follow:—

The *Penobscot* rises in the Highlands of Maine, and after expanding into several successive lakes, unites with the Eastern Branch, and flowing to the south, empties into the bay of the same name. Its course is 250 miles. The *Kennebec* also rises in the Highlands, and after a southerly course of near 200 miles, falls into Merrymeeting Bay.

The *Merrimac* rises in the White Mountains of New Hampshire, and after a south course through that State, enters Massachusetts, and turning to the east falls into the Atlantic at Newbury Port. Its whole course is 200 miles.

The *Connecticut*, the largest river in New England, has its source in the Highlands which form the northern boundary of New Hampshire, and taking a southerly direction, separates that State from Vermont, then crosses the States of Massachusetts and Connecticut, and enters Long Island Sound, after a course of 400 miles.

The *Hudson* rises in the northern part of New York, in the mountain region west of Lake Champlain, at an elevation of 4747 feet above the sea, and pursuing nearly a south course for 300 miles, joins the sea in the Bay of New York.

The *Delaware* has its source in the Catskill Mountains of New York, and pursuing an irregular course to the south, it first forms the boundary between New York and Pennsylvania, then between Pennsylvania and New Jersey, and finally between New Jersey and the State of Delaware, until it enlarges itself into Delaware Bay. Its length is about 300 miles.

The *Susquehanna* is formed, near its head, of two branches; the eastern having its source in Otsego Lake in New York; the other in the most western ridge of the Appalachian Mountains in Pennsylvania. The latter branch, after passing through the several ridges of the chain, unites with the eastern branch below the mountains of Northumberland

in Pennsylvania: then running south-east and south-west alternately, it traverses that state, and passing through a small part of Maryland, it enters the Chesapeake Bay at Hâvre de Grace, after a course of more than 400 miles.

The *Potomac* rises in the Alleghany Mountains of Virginia, and pursues a general north-east course for upwards of 100 miles; it then gradually bends to the south-east, and, pursuing that course, passes by the city of Washington, and empties into the Chesapeake Bay. Its tributary called the *South Branch* is much longer than the main river. Its length is estimated at near 400 miles, and it forms, throughout its whole course, the dividing line between Maryland and Virginia.

James River rises also in the Alleghany, and after passing through the three principal ridges of the Appalachian chain, it runs by an irregular easterly course to the Chesapeake. Its course, which is wholly in Virginia, is about 350 miles long.

The *Roanoke*. This river, like the two former, has its source in Virginia. It consists of two branches, of which the most southern, the *Dan*, passes into North Carolina, and has a winding eastern course on the line between the two States. The northern and main branch pursues a south-east course, and uniting with the *Dan* in Virginia, continues the same course through North Carolina to Albemarle Sound. Its length is upwards of 350 miles.

The *Neuse*, after a south-east course of 200 miles, falls into Pamlico Sound. *Cape Fear River*, after a similar course of 300 miles, falls into the Atlantic, near the Cape, from which it takes its name. Both these rivers are wholly in North Carolina.

The *Pedee* rises in the mountains of North Carolina, where it is called the *Yadkin*, and pursuing a south-south-east course, passes into South Carolina, and empties into the ocean at George Town. The *Santee*, in like manner, rises in North Carolina, and runs nearly a south course into South Carolina, and then turning to the east discharges itself into the ocean, to the north-east of Charleston. The course of each river exceeds 350 miles.

The *Savanna* has its source in Tennessee, and flowing in a south-east direction for more than 400 miles, forms the boundary between South Carolina and Georgia, and enters the Atlantic 17 miles below the town of the same name.

The *Alatamaha* is formed by the junction of the *Oconee* and *Ookmulgee*, both of which rise in the mountains of Georgia, and flow in a south-easterly direction. After their confluence, the *Alatamaha* bends more to the east, and empties into the Atlantic at Darien. By the eastern and longest branch, the *Oconee*, the length of the whole river is 500 miles. To this list of the Atlantic rivers of the United States may be added the *St. John's* in East Florida, which, rising in the interior of the Peninsula, takes a north course, during which it expands into several

lakes, and then turning to the east, falls into the ocean 30 miles south of the Georgia line.

The other two large rivers, which have their sources on the south-eastern side of the Appalachian chain, flow into the Mexican Gulf. Of these the *Appalachicola* is composed of two branches, Flint River and the Chatahooche. The latter, which is the more considerable, rises near the northern boundary of Georgia, and running to the south, becomes part of the boundary line between that State and Alabama, after which it separates Georgia from West Florida. Uniting with Flint River from the north-east, it passes through West Florida and falls into the gulf to the west of Appalachie Bay. The whole course is more than 600 miles. The *Mobile* also consists of two main branches, the *Alabama* on the east, and the *Tombigbee* on the west, which unite more than 40 miles above Mobile Bay. After running 10 miles the river again divides, and proceeds by two mouths to the Bay. The *Alabama* branch, in like manner, consists of two streams, the *Coosa* and the *Talapooosa*, both rising in the mountains of Georgia, and flowing to the south-west. The *Tombigbee* rises in the northern part of Alabama, and having, by a south-westerly course, passed into the state of Mississippi, it again enters Alabama, and descends to the gulf in a southerly direction. The whole course of the Alabama, by either branch, is between 400 and 500 miles. The course of the Tombigbee is about the same.

It may be remarked that the general course of all the preceding rivers, except the St. John's, is either to the south or south-east, and that in both cases the course is nearly at right angles both with the general direction of that part of the Appalachian chain in which they have their respective sources, and of that part of the coast where they enter the sea. The whole extent of surface which they and the intermediate streams drain is about 370,000 square miles. Now the country between the Alleghanies and the Rocky Mountains, constituting the great Mississippi valley, contains 1,100,000 miles; and if the quantity of water discharged by rivers is, in similar climates, proportionate to the surface of the country which they drain, then the Mississippi, by which all the streams of this immense valley find an outlet, discharges about three times as much water as all the Atlantic streams united.

The Mississippi, which divides the territory of the United States into two nearly equal portions, rises in a tract of table land west of Lake Superior, abounding with lakes and marshes, the waters issuing from which all find a common outlet in the river. Which of these lakes formed the principal source of the Mississippi has long been an unsolved problem in American geography, for first, Leech Lake, then Redcedar or Cass Lake, Lake Travers, and Truth Lake, have all in succession been considered the real source as the country became more fully explored. But by an expedition in 1832, conducted by Mr. Schoolcraft, an Indian agent, and Lieutenant Allen, of the United States army, it is

now ascertained to be in lake La Biche,* and thus, while the course of the river is made longer, its source is farther south than had been previously supposed. This lake, which is about 7 miles by 3, lies on the east side of a granite ridge which divides the waters of the northern Red River from those of the Mississippi, and is in $47^{\circ} 10' N.$ lat., $95^{\circ} 54' W.$ long. The stream which issues from it, and which constitutes the head of the Mississippi, is 20 feet broad and 2 feet deep. It first flows in a northerly direction through smaller lakes to Lake Travers, which is 10 miles by 5, and, leaving the lake near the place of entrance, it turns to the east through Cass Lake to Little Lake Winnipeg, from which it takes that general southerly course which it afterwards keeps to the Mexican Gulf. According to the memoir of Lieutenant Allen, the distance by the river from Lake La Biche to Cass Lake is 165 miles; to the Peckagama Falls below Lake Winnipeg, is 279 miles; and to the Falls of St. Anthony is 1029 miles. The principal rivers which it afterwards receives, are the *St. Peter's*, from the west, 9 miles below the Falls, which river flows first to the south-east, and then to the north-east, and has a course of 250 miles. Ninety miles below the Falls the *St. Croix* enters from the east, and is said to be navigable for 200 miles: about the latitude of 44° , the river expands into Lake Pepin, which is 3 miles wide, and then receives the *Chippeway* from the east. About 43° , and near Prairie du Chien, it receives the Wisconsin from the east, the course of which exceeds 300 miles. Near the 40th degree the river *Des Moines* enters from the west, after a course of about 400 miles. In lat. 39° the Illinois enters from the east, after a course of 400 miles. Eighteen miles below it is joined by the Missouri, which, being a longer, fuller, and more rapid stream, would probably have given its name to their united waters, but for the two circumstances that it enters the Mississippi at right angles, while the latter continues its previous course; and that, immediately above the confluence, the Mississippi is much the wider river. From the Falls of St. Anthony to the junction of the Missouri, the course of the river is 843 miles.

The sources of the *Missouri* are in the Rocky Mountains between 42° and $43^{\circ} N.$ lat. They consist of three nearly equal streams, which unite after a northerly course of about 150 miles. Of these streams Lewis and Clarke named the most western, and which is supposed to be somewhat the largest, the *Jefferson*, the most eastern, the *Gallatin*, and the intermediate one, the *Madison*. The river continues its northerly course, after the junction, to the Great Falls, in lat. 47° , which are 520 miles below the highest navigable point of the Jefferson. It then flows north-east 54 miles to the mouth of *Maria's* river, a considerable stream from the north-west. Its course is then easterly about 800 miles to the mouth of the *Yellow-stone*, in lat. 48° , the length of which river is supposed to be little less than that of the Missouri above the conflu-

* Or Itasca, p. 84.

east. The course is then north-east to *White Earth* river, and south-east to the Mandan villages, having first received the *Little Missouri* from the south-west. The general course is afterwards south-east to its junction with the *Mississippi*. Its principal tributaries are the *Quinnipissaugue* from the west, the *Juques* and *Sioux* from the north, the *Platte*, which rises in the *Rocky Mountains*, the *Kansas* also from the west, the *Grand River* from the north-west; and the *Osage* from the south-west. Its length, from the mouth of the *Yellow-stone* to its confluence with the *Mississippi*, is computed to be 1880 miles, and its whole course to its confluence with the *Mississippi* more than 3000 miles.

Below the confluence of those rivers, 193 miles, the river *Ohio* enters from the north-east. This river is formed by the union of the *Alleghany*, which rises in *Pennsylvania*, and of the *Monongahela*, which rises in *Virginia*; they unite at the town of *Pittsburg*, from which point to its mouth, the *Ohio* has a course of 1132 miles, during which it receives the *Muskingum*, the *Scioto*, the *Great Miami*, and the *Wabash* from the north, and the *Great Kanawha*, the *Big Sandy*, the *Kentucky*, *Green River*, the *Cumberland*, and the *Tennessee* from the south; all of which are considerable rivers. The *Ohio* separates the State of the same name from *Virginia* and *Kentucky*; and it also separates *Kentucky* from *Indiana* and *Illinois*.

The river St. Francis enters the *Mississippi* on the west side, 305 miles below the mouth of the *Ohio*; and 80 miles lower, *White River* enters on the same side. Both these streams have their source in the *Osage Mountains*. Thirty miles below *White River*, the *Arkansas* enters also from the west. Its source is in the *Rocky Mountains*, its general direction a little south of east, and its course is commonly estimated at 3000 miles, and even more, though it has probably been overrated. The *Arkansas* enters from the east, 200 miles lower down, after a course of about 300 miles. Eighty miles below the town of *Natchez*, and in lat. 34°, *Red River* enters from the west. This river rises in the *Rocky Mountains*, and takes a general south-east direction to the *Mississippi*, receiving several large rivers in its course, which is supposed to be little inferior in length to that of the *Arkansas*. Immediately below *Red River* the *Mississippi* begins to discharge a part of its vast body of water, especially during the annual floods, through lateral outlets, called by the inhabitants bayous. There are four of these above *New Orleans*, the *Atchafalaya*, the *Perrille*, *Bayoumine*, and *La Fourche*. Below this last bayou, the banks of the river continue unbroken for 200 miles, when the river discharges itself by six unequal mouths into the *Mexican Gulf*, and thus terminates a course which, by the branch that bears its name, is 3267 miles, and by the *Missouri* branch is 4424 miles. As both rivers are navigable to their respective falls, the *Mississippi* has a navigation to the sea of 2238 miles; and the *Missouri* of 3960 miles. Both rivers have annual floods, which begin about the end of February, and are at their height about the middle of June.

The *Sabine* is part of the boundary between the United States and Texas. It rises in the province of Texas, and has nearly a south course to the gulf of about 350 or 400 miles.

The only considerable river yet explored in the territory claimed by the United States on the Pacific, is the *Columbia*, or the *Oregon*, as it is sometimes called: This river consists of several branches, all of which have their source in the Rocky Mountains. That which has been regarded as the main river by travellers rises about the 54th degree of north latitude. Its general course is to the south and west, and it unites with three considerable rivers all from the south-east: with the first, *Clark's River*, about 600 miles from the Pacific; the second, *Lewis's River*, about 400 miles, and the last, the *Multnomah* or *Wallamat*, 125 miles. The head streams of *Lewis's* and *Clark's* rivers are known to approach very near, in some places even within a mile, to those of the *Missouri*. The whole length of the *Columbia* is, upon imperfect data, estimated to be 1500 miles. Its mouth is in $46^{\circ} 13'$ north latitude, and $123^{\circ} 20'$ west longitude.

Lakes.—Between the Mississippi and the Appalachian Mountains there is a group of large lakes, all of which, except one, form part of the northern boundary of the United States. They are *Lake Superior*, *Michigan*, *Huron*, *St. Clair*, *Erie*, and *Ontario*. The water of each lake flows into the lake that is east of it by a narrow strait or river, until the most eastern, the *Ontario*, finds in the *St. Lawrence* a passage for its waters to the ocean.

Lake Superior, the most northern and western of the group, is 360 miles long from west to east, 150 miles wide, and about 1600 in circumference. It contains five large islands, one of which, *Isle Royale*, is said to be 100 miles long by 40 broad. It receives more than fifty rivers, but has only a single outlet, the straits of *St. Mary*, which connect it with *Lake Huron*. These straits are about 40 miles long.

Lake Michigan lies directly south of *Lake Superior*, and communicates with the western extremity of *Lake Huron* by a strait. It lies wholly within the United States, is 260 miles long from north to south, and has a mean breadth of 50 miles. *Michillimackinac*, the strait which connects it with *Huron*, is 6 miles long by 4 miles wide. *Lake Huron*, lying south-east of *Lake Superior*, is 240 miles long, and 100 miles wide. It abounds in islands, one of which is 90 miles in length. It discharges itself at its south-east corner into *Lake St. Clair*, by the strait or river *St. Clair*. This lake, and the strait which connects it with *Lake Erie*, including *Lake St. Clair*, form the eastern boundary of the *Michigan* territory.

Lake St. Clair is about 90 miles in circumference. The strait of the same name is 30 miles long, and that which connects it with *Lake Erie*, called *Detroit*, is 29 miles in length, and less than a mile in width.

Lake Erie, lying south of *Lake Huron*, is 265 miles long from south-west to north-east, with a mean breadth of 40 miles. It contains but

few islands, and, though shallower than the other large lakes, has a depth of from 8 to 50 fathoms. It communicates at its north-eastern extremity with Lake Ontario by the strait or river of Niagara, which, 9 miles north of Erie, and 14 miles south of Ontario, forms the celebrated cataract of the same name.

Lake Ontario, lying north of Lake Erie, receives the Niagara near its western extremity. It is 172 miles long from west to east, and 60 miles wide. It contains 19 islands. At its north-east corner is the outlet of this lake which gradually narrows to a mile, and becomes the river St. Lawrence.

These inland seas are never entirely frozen over, and the islands with which they abound, as well as their shores, now afford convenient harbours for those who navigate them, and will in time become pleasant places of residence to future settlers. They will all one day be the scenes of an active commerce, and possibly of fierce contests for naval supremacy or maritime rights.

The next most considerable lake in the United States is *Lake Champlain*, which forms part of the boundary between the States of Vermont and New York. It lies north and south, is 140 miles long, and its width varies from half a mile to 12 miles: the surface is about 90 feet above the level of tide water. It is usually frozen over during three months in the year, and during the rest of the year is navigable for vessels of the largest size.

There are no other lakes in the United States to compare with the preceding in extent or importance. The only parts indeed which contain any of these natural features worthy of notice, are Maine, New Hampshire, New York, Florida, Louisiana and the country between the great lakes and the Mississippi, all of which are noticed under their respective States and territories.

Marshes.—In the neighbourhood of nearly all the great lakes there are extensive tracts of marshy country. There is also the *Great Dismal Swamp* in the eastern part of Virginia and North Carolina, 30 miles long by 10 broad, with a small lake in its centre; the *Little Dismal* or *Alligator Swamp* to the south of Albemarle sound in North Carolina, is estimated to contain about 75,000 acres. The rest of this State along the coast, as well as the eastern parts of South Carolina and Georgia, a large proportion both of East and West Florida, and the southern parts of Alabama, Mississippi, and Louisiana, present a constant succession of swamps and marshes, which vary greatly in fertility, extent, and the capacity of being drained. Most of them produce cypress, juniper, and other valuable timber, and some of them are yet covered with their primeval, and almost impenetrable forests. There are also extensive swamps along the banks of the Mississippi, and on the Arkansas and White River: the *Great Swamp*, on each side of the St. Francis, in the Arkansas Territory, is more than 60 miles long.

Whilst nine-tenths even of the inhabited parts of the United States

present, in their general aspect, the character of one continuous forest, there are, in the unsettled portion, immense tracts of natural meadow, in which not a tree can be seen, except those that never fail to fringe the streams which traverse them. They are called *Prairies*, a name derived from the French settlers: and they have been divided into three kinds; the *bushy*, the *wet*, and the *dry*. The first are in part covered with low bushes and shrubs as well as grass: they have an advantage over the dry prairies in being supplied with water, and over the wet prairies in being healthy; they are also more inviting to settlers than either. The States of Indiana, Illinois, and Missouri, abound with prairies of this description, and they are intermixed with the other kinds in the immense wilderness between the Mississippi and the Rocky Mountains. The dry prairies are commonly without springs: they exhibit no other vegetation than weeds and grass, and often have an uneven surface. They are more numerous, and of greater extent than the other two descriptions; and it is on these that the vast herds of the wild buffalo find sustenance. Some of these prairies are so large that the traveller may be crossing them for days without seeing anything around him but one wide ocean of grass. The *wet* or alluvial prairies constitute the smallest division. They are most frequently met with on the banks of the great rivers; they are very fertile, and are commonly covered with natural grass of extraordinary luxuriance.

The origin of these woodless plains has afforded matter of controversy; some contending that they are now in their original state, and that their soil was either too shallow for trees, or being peculiarly favourable to grass and other minor plants, these last occupied it to the exclusion of all other vegetation: whilst others maintain that these plains were originally covered with trees, which have been gradually destroyed by the Indian custom of firing the woods every autumn, and that grass and other annuals succeeding the first growth there, the trees were never able to regain their footing in the soil, especially as the same cause which had originally destroyed them, annually recurs. That some of the prairies have originated in this way there seems no reason to doubt, if, as it has been asserted, trunks of half-burnt trees are often found a few feet under their surface. It is, however, not improbable that others may be unfit for the growth of trees in consequence of having a bed of rock too near the surface; or though not actually unfit, as is proved in some of the prairies by the success of plantations, the soil may be so much more congenial to grass as to have always excluded the growth of everything else.

Geology and Mineralogy.*—There seems to be considerable simplicity

*The geology of this extensive country is very imperfectly known, and a geographical work is not the proper place for even such an exhibition of it as might be presented by a careful selection and arrangement of all well-ascertained facts. It

in the great geological features of this country, which correspond in some degree with the regularity of its ranges of mountains, and the great general slopes of its surface. To follow these formations in the order in which they occur from the coast; the first is a belt of tertiary formation, which, beginning at Cape Cod, reaches to the confluence of the Alabama and Tombigbee. This belt increases in breadth as it proceeds to the south, so as to form about one-third of North Carolina, one-half of South Carolina and Georgia, nearly the whole of the Florida, and the lower half of Louisiana. It is also higher as well as broader to the south; by reason of which the ocean tides, which just reach its western boundary in the country extending from the Delaware to the Roanoke, in the rivers further north, pass beyond that boundary into the primary region; and, in those farther south, fall short of it from 30 to 120 miles. Throughout this whole formation deposits of shells are found, and, occasionally bog-iron ore, together with yellow or brown ochre, in beds or detached lumps.

West of the tertiary formation, and rising immediately above it, is the belt of primary rock, which reaches from the St. Lawrence to the Alabama. North of Cape Cod, where this formation first meets with the tertiary, to Penobscot Bay, the coast is its south-eastern boundary. It extends from the coast to the northern frontier, and within 12 miles of Lake Champlain, so as to include almost the whole of New England; it thence gradually narrows to a point south of the Delaware, where it is crossed by a strip of secondary formation; and re-appearing south of the secondary formation, it gradually enlarges to the summit of the Blue Ridge, which it follows as far as Magotty Gap in North Carolina. From thence it proceeds with a breadth of about 150 miles, until it meets the alluvial region of the Mexican Gulf.

There is also a large body of primary rock lying north of Lake Champlain and extending to the St. Lawrence and Lake Ontario. The strata in all these primary formations generally range from north and south to north-east and south-west; and dip to the south-east at an angle of more than 45° . This formation is rich in metals and minerals, as iron, copper, and gold, zinc, titanium, manganese, cobalt, plumbago, &c., which are generally found in beds.

This great belt of primary rock is intersected by several smaller belts of other formations; of which the following have been most distinctly traced. A *transition* formation, which covers the primary rocks throughout Rhode Island, and thence to Boston, is from 10 to 15 miles broad, and

is sufficient here to indicate the general distribution of the rocks and minerals in the United States, so far as such distribution is necessary to illustrate the physical geography. The description here given does not affect any scientific accuracy, and the terms here used are those employed by other writers, upon whose authority this sketch is given.

seems formerly to have extended further east. 2. A range of *secondary* rocks, extending, with some intervals, from the Connecticut to the Rappahannock. It is generally from 15 to 25 miles wide; and consists of old red sandstone principally; but is covered occasionally with greenstone trap, wacke of different kinds, quartz pebbles, &c., which form the small hills and ridges which occur in it. Magnetic iron and grey copper ores have been found in this formation. Its strata range from east and west to north-east and south-west; and generally dip to the north-west at an angle less than 25° . 3. A belt of *transition* rocks running south-west from the Delaware to the Yadkin, and dipping to the south-east about 25° above the horizon. It is 15 miles wide on the Delaware, and gradually narrows to 2 miles on the Yadkin. A *red sandstone formation* partially covers it between the Delaware and Rappahannock. It consists of limestone, alternately with other rocks; it also contains white marble, galena, and sulphate of barytes. 4. A similar formation, about 15 miles long, and from 2 to 3 miles wide, occurs on the Catawba river, near the Blue Ridge. 5. A coal formation west of Richmond, Virginia, and about 10 miles wide, has been traced near 40 miles.

Granite, in large masses, constitutes but a small part of this primary belt: and it is found indifferently on the mountain tops and in the plains. *Gneiss* extends over half the formation, and includes large beds of granite in which the garnet, emerald, tourmaline, and other minerals in great variety are found. A belt, containing gold, from 20 to 50 miles in width, has been traced from Pennsylvania to Alabama. But the gold is rarely found in sufficient quantities to repay the labour of searching for it, where it is found in detached pieces, or of separating it from the quartz with which it is often found united.

A belt of *transition* rocks next appears on the west of the primary rocks, extending from the east side of Lake Champlain to the river Alabama, and from 20 to 100 miles in width. It is widest in Pennsylvania; and everywhere enlarging as the primary rock diminishes, it gradually narrows, both as it proceeds to the north and the south. But its western boundary is not so distinctly marked as its eastern. Its strata generally dip to the north-west at an angle less than 45° . This belt includes a considerable part of the Appalachian chain from the Hudson to the Holston in Tennessee; and its mountains, differing from those in the belt of primary rocks, present a straight unbroken outline. This formation consists of limestone, greywacke, and silicious slate in the valleys, and of quartz aggregates in the mountains. The limestone contains numerous caves, in which animal remains are found. Anthracite, alum slate, iron ores in great variety, and galena are its principal minerals yet discovered.

Adjoining the transition belt, on its western boundary, is the *secondary* formation, by far the most extensive of all; reaching from the Alleghanies to the Rocky Mountains, and from the primary rocks, on

the borders of the great lakes, to the alluvium of the Mexican Gulf. Its strata are almost perfectly horizontal, except so far as they conform to the undulations of the surface; and they consist of limestone, sandstone, slaty clay, and freestone, with vegetable impressions. It contains, also, formations of rock-salt, gypsum, and one of coal, extending from the Ohio to the Tombigbee. Iron and lead are the principal metals of the formation.

The country lying between the Mississippi and the Rocky Mountains has been yet too imperfectly explored for its geological character to be accurately known; but, from the uniformity exhibited in the three or four directions in which that immense plain has been crossed, it is inferred that, with the exceptions of the alluvial deposits on the margins of its great rivers, the narrow belt of granite which occurs in the Ozark Mountains, and probably in the Black Hills, the whole western side of the valley, like the eastern, is of secondary formation. A great sandy desert, more than 500 miles wide, appears to run along the eastern base of the Rocky Mountains, from 34° north to 41° , and it may extend yet further. This zone of sand is attributed to the action of the ocean, which is supposed to have once covered the whole Mississippi valley to the Rocky Mountains. It is composed of the same materials as the disintegration of the mountain rocks would have produced. It may also be worthy of notice that the sandstone formation, which reclines against the base of those mountains to the height of several hundred feet, has nearly the same level as a similar formation on the west side of the Appalachian chain, if Major Long's estimate of the elevation of the base of the Rocky Mountains (3000 feet) is correct.

The secondary formations of this region (west of the Mississippi) consist of red sandstone, which abounds in gypsum, salt, and iron; an argillaceous sandstone, containing coal and iron; and of greenstone, greystone, amygdaloid, sand and gravel. The geological character of the country between this sandy belt and the Mississippi, to the north of the Missouri, is yet little known; but that to the south appears to be principally secondary sandstone, with the exception of the extensive alluvial deposits, and of the Ozark Mountains. The formations of these mountains are granite of peculiar softness, argillite, transition sandstone, flint, limestone, argillaceous sandstone, with beds of coal and ores of lead. The secondary rocks here occupy the highest places, and the primitive the lowest.

The Rocky Mountains themselves, above the sandstone formation which covers their eastern base for several hundred feet, seem to be wholly primitive, and consist of granite, gneiss, quartz, flesh-coloured felspar, mixed with hornblende, &c. They generally terminate in knobs and peaks, which give them, at a distance, the appearance of ranges of unconnected cones.

The geological character of the country between the Rocky Moun-

tains and the Pacific is still unknown. Many of the rivers which are tributaries of the Columbia, run in deep rocky gorges many hundred feet below the country which they traverse. The upper courses of these streams are very rapid.*

III.—*Animal and Vegetable Productions, Soil, and Climate.*

The horse, the ox, the hog, and the sheep, though not originally natives of the American continent, thrive as well and attain as great perfection in this country as in Europe, from whence they were first introduced. In the northern and middle States, the *horses* are most fit for draught; in the southern, for the saddle and the turf. There are herds of wild horses in the extensive prairies of the Missouri territory, which, when caught by the Indians, are used by them in hunting the buffalo. They do not seem to differ from the Spanish horses of Mexico,† from which they are descended, except in being more hardy. The breed of *sheep* has been, until lately, less attended to than that of the other domestic animals; they have, however, been greatly multiplied within the last twenty-five years; and both the long woolled and the fine woolled breeds appear to succeed very well.

The native quadrupeds of the United States are, the *buffalo*,† or bison, which is scarcely ever found within a hundred miles of the white settlements, but abounds on the woodless plains of the west. They furnish the Indians of that region with the chief articles both of their food and raiment. The cartilaginous "hump" on the shoulders of the animal is regarded by all as a great delicacy. The *red deer* is found in all the woody parts of the United States, settled or unsettled; but they are not numerous in the western wilderness. The *elk* or *moose*, the largest animal of the deer kind,—sometimes weighing 1100 or 1200 pounds—is found only in the more northern parts. The *wapiti* or *grey moose* is confined to the same region. The *black bear* is found in every part of the country where he has not been extirpated by the settlers. In the Atlantic States he is seldom seen east of the Blue Ridge. He is hunted for his skin, his flesh, and his fat, or oil, which is used by the hunters as a substitute for butter. The *grizzly bear* is much larger than the former and far more ferocious. He is found only in the country west of the Mississippi, and in the neighbourhood of the Rocky Mountains. A small *antelope*, a fleet and beautiful animal, is found in the Rocky Mountains, and to the west of them. The *Rocky Mountain goat* lives on the highest peaks of that range, and is not very different from the domesticated goat. The *Rocky Mountain sheep*, a native of the same elevated region, is distinguished from the common sheep by his larger size, his

* See p. 78.

† The names adopted in this chapter are those which are in common use in the United States.

enormous curling horns, and by his being covered with a coarse fur and hair rather than wool. The *bear*, once found on all the streams of the country, is now met with only at the sources of the Mississippi, and the waters west of it. He is still the favourite object of pursuit with all hunters, on account of the high-priced fur, and is likely in another century to be entirely extirpated. The *musk-rat*, resembling the beaver both in its habits and its fur, is still found on the banks of ponds and streams in every part of the country. The *opossum*, not more remarkable for its abdominal pouch than its instinct of feigning death, both as a means of inviting its prey and of disarming its enemies, is found in Pennsylvania, and all the country either west or south of it. Though much hunted for its flesh, which is savoury but coarse, yet as it is very prolific, it still abounds even in the oldest settlements. The *hare*, much smaller than the European, is found in every part of the country; and *squirrels* of various kinds. Some of the species are met with wherever there is woodland; and in many places they are so numerous as to prove a serious annoyance to the fields of maize.

All the preceding quadrupeds contribute to human sustenance and comfort, both by their flesh and their skins, their fur, hair, or horns. Among the noxious kinds which afford him only their skins and the pleasures of the chase, is the *panther*, *cougar*, or *puma*, which is now rarely seen in the settled parts of the country, except in woody mountainous districts. The *wild cat*, or *Canadian lynx*, is found only in the northern and north-western regions. The *wolf* is rarely met with to the east of the Blue Ridge; but everywhere in the mountains and in the newly-settled districts he is very destructive to sheep; nor can these useful animals be greatly multiplied in some of the regions best adapted to them, until their great enemy, the wolf, is extirpated. In several of the States a premium of from 12 to 15 dollars is paid out of the State treasury for every wolf-scalp. *Foxes*, grey and red, abound in every part of the country. Both the European fox and the Norway rat have now become naturalized in the United States. The racoon, mink, weasel, skunk, a kind of polecat, martin, woodchuck, and the mole, with rats and mice, complete the list of this class of quadrupeds in the Atlantic States. In the great wilderness west of the Mississippi there are found, besides the animals already mentioned, the *prairie-wolf*, not more than half the size of the ordinary wolf, but yet more mischievous; the *prairie-dog*, which is, in fact, a *marmot*, and of which there are several species, all burrowing in the ground and living in communities; the *badger*, found about the sources of the Missouri; and the *gopher*, a mole, twice as large as the ordinary species.

Besides the domestic fowls which were carried from Europe to America, the following are the most common or the most remarkable birds of the United States. The *wild turkey* is both larger and more delicate than the domestic, though differing little in appearance: it is found

in all the woody districts, but is most numerous in the southern States. The *pheasant* of the southern and middle States is the *partridge* of New England. It differs from the English partridge, and is larger. The *quail* of the northern States is the partridge of the southern. This is also larger than the English quail, and a different bird. The *prairie-hen*, which is larger than the domestic hen, and resembles the pheasant, is found only in the western country. The *wild*, or *passenger-pigeon*, is sometimes seen in flocks extending many miles in length. These birds settle in such numbers on the trees, when they stop to roost, as often to break off large branches. Of the water-fowl, the *canvas-back duck* is by far the most esteemed. These ducks breed on the northern lakes, and resort to the Susquehanna and Potomac rivers to feed on the grass which they there find, and which is supposed to impart to their flesh its peculiar flavour. Next to these, as a delicacy, is the *soree*, or *sorer*, a species of rail, which is caught in great numbers in some of the marshes, during the autumn, in Virginia, and the middle States. The *rice-bird* of South Carolina, or the *Ortolan reed-bird* of the middle States, is little inferior to it. The *swan* is found principally on the Potomac. *Wild geese*, of two or three kinds, and *ducks* in great variety, as *mallards*, *teals*, *shovellers*, *widgeons*, &c. are found, in greater or less numbers, on all the rivers; and they are all migratory in their habits. To this list may be added the snipe, plover, curlew, snow-bird, night-hawk (a species of *caprimulgus*), and woodcock, which, though less numerous than the preceding, add occasionally to the delicacies of the table.

The birds most admired for the beauty of their plumage are the *summer duck*, the *sponsa* of Linnæus; the *Baltimore bird*, the *red bird*, or *Virginia nightingale*; the *Carolina parrot*; the *purple gallinule*; the *flamingo*; the *roseate spoonbill*; and the *humming-bird*, the smallest and most beautiful of all. The songsters are the *mocking-bird*, which far excels the rest both in variety and sweetness; the *cat bird*; the *robin*, the *red bird*, and the *thrush*.

The birds of prey are also numerous: the *eagle*, of which the bald eagle is the best known; several species of *hawks* and *owls*; the *turkey buzzard*, which preys only on the dead; the *raven*; the *king-fisher*, the *flamingo*, and the *pelican*. Besides these there are *cranes*, *herons*, *blackbirds*, *larks*, *sparrows*, *woodpeckers*, *jays*, *swallows*, and some others, of which each kind contains several species.

Of the fish of this country, those which are most important as articles of commerce are the *cod* which is caught on the banks of Newfoundland and off the New England coast; the *shad*, taken in all the large rivers; and the *herring*, which is caught both in the bays and rivers. The fish most esteemed for the table are the *salmon*, caught only in the rivers of the northern States; the *black fish*; the *bass*; the *rock*; the *sheep's-head*; the *bonetta*; the *hog-fish*; the *sturgeon*, which, however, is eaten only in

particular districts: the *mackarel*, and some kinds of *perch*. In the interior the *trout* is the best fish. The shellfish are *lobsters*, *oysters*, *crabs* and *clams*.

The serpents of this country are various; and, in the thinly peopled districts, very numerous. The greater part of the species are oviparous; but it is only the viviparous whose bite is venomous, as the *rattle-snake*, the *highland moccasin*, the *copper-head*, and the *riper*. The *rattle-snake* is the most formidable of them all. He has on each side of his mouth a fang, through the minute perforation of which he injects a deadly poison, but which yields to many remedies if they are seasonably applied. Fortunately, this reptile is not very active, and never attacks unless it is first provoked, nor without giving warning by its rattle. Of the snakes whose bite is not venomous, the *black snake* is the most common. He preys upon birds, frogs, squirrels, and hares, and sometimes follows his prey into the trees. Being very swift, he readily runs down the frog; but in taking birds and small quadrupeds he pursues the same course as other serpents. When he finds himself in the neighbourhood of one of those defenceless animals, he fixes his eyes on it, but makes no attempt to move towards it. The bird, squirrel, or other animal, instead of seeking safety in flight, moves to and fro within a short distance of the snake, and, gradually approaching, at length comes near enough to be seized by the enemy. These acts of seeming self-immolation, so contrary to the most prevalent animal instincts, have been variously explained by writers on natural history. Some think that the animal is attracted by the beauty of the snake's skin and the brilliancy of his eyes. Others maintain that its acts are those of desperate courage in defence of its young; and that the phenomenon is never witnessed except in the neighbourhood of a nest containing young. Others again impute all that is extraordinary in the scene to the bewilderment of fear. The popular understanding of the fact is different from any of the preceding solutions, for when the vulgar say that "snakes have the power of *charming* birds," they mean something different from the power of exciting admiration, or terror, or desperate courage; and it is the undefined mysterious sense of the words "charm" and "fascination" that probably has induced many others again to deny the facts themselves which have been detailed, though they could always be attested by thousands of living witnesses. It has also been frequently asserted that these snakes sometimes suck the milk from the cows, but the fact itself is not sufficiently attested. To the list of snakes not venomous may be added the *water moccasin*, the *garter snake*, the *glass snake*, the *coachwhip snake*, and the *bull snake*.

There are various reptiles of the *lizard* kind. The *alligator*, the largest of all, is found only in the southern States, and sometimes attains the length of 15 or 16 feet. Though very powerful and voracious, yet, from his general sluggishness and difficulty of turning round, he is not very

dangerous. Of the small lizards there are several kinds. One, popularly called a *scorpion*, is said to be poisonous, but upon no sufficient evidence. The *chameleon*, the smallest of the genus, is found in the States of South Carolina and Georgia. All the hues it is capable of assuming are some shade of green or yellow with a slight tinge of brown; but sometimes the hue is so pale as to approach to a white. Tortoises, in great variety, both as to size and general appearance, are found throughout the United States in all ponds and marshy places. Many of them are regarded as delicacies, but none are so much prized as the *terrapin* of the middle States.

Vegetable Productions.—North America, according to Michaux, is remarkably rich in forest trees, and by far the largest part of those enumerated by him are found within the territory of the United States. Those used for ship-building are the several species of oak and pine. Of the former, the *live oak* is by far the most valuable, by reason of its durability. It is rarely seen as far north as 37°, is not abundant north of 31°, and even in that latitude it is found mostly within 50 miles of the coast. The variety of American oaks is very great; and they differ widely in the properties of toughness, hardness, durability, and in the quantity of tannin contained in their bark. Of the several kinds of pine the white is found principally in the northern States, and in all the mountainous districts; but the yellow pine which yields tar and turpentine in the greatest abundance, is found only in the south. The other timber trees are the *ash*, *beech*, *birch*, black and white *cedar*, red and white *chestnut*, *cypress*, *juniper*, *hickory*, *locust*, (*robinia pseud-acacia*) *red maple*, mulberry, poplar (*liriodendron tulipifera*), and the walnut, black and white.

The trees which are valued chiefly for ornament or shade, are the *sycamore* or button-wood (*platanus occidentalis*), the largest tree of the western country; several species of *magnolia*, found only in the south; the *catalpa*; the *horse-chestnut* or buck-eye (*æsculus pavia*), the *linden* or *lime*; the *sassafras*; the *red bud* (*cercis Canadensis*); the *fringe-tree* (*chionanthus Virginiana*); the *dogwood* (*cornus florida*); the *holly*; the honey locust (*gleditsia*); the sourwood (*andromeda*); the cottonwood (*populus deltoides*); the balsam poplar; the palmetto; and the cabbage-tree, a species of palm.

The trees which afford fruit or sustenance are, in addition to the various-kinds of apples, pears, cherries, peaches, plums, almonds, figs, oranges, &c., introduced from Europe, the *walnut* and *hickory*, of each of which there are several kinds; the *peccan-nut*, *chestnut*, *chinquapin*, *hazel-nut*; several kinds of *wild plums*; the *persimmon*, the *papaue*, and the *red mulberry*. To these may be added the *sugar maple*, the most valuable of all in affording that vegetable luxury to those who, either because they had nothing to give in exchange for it, or on

account of their remoteness from market, must have otherwise done without it.

To enumerate all the shrubs and other minor plants which are used for the purposes of food, medicine, dyeing or ornament, would exceed the limits of a geographical work. Such of them as are either objects of agriculture, articles of commerce, useful in the arts, or in any way characterize particular districts, are noticed under the several political divisions.

Soils.—Each of the great belts into which this country has been geologically divided, has a correspondent peculiarity of soil, though in all of them there are numerous exceptions to the predominant character, as the soils chance to be modified by local circumstances. The belt along the Atlantic coast is composed chiefly of sand, which, though in general very poor, and spontaneously producing nothing but pine, has, on the margin of the rivers, been so intermingled with animal and vegetable deposits from the districts above it, as to be often very fertile. It happens, therefore, that as this belt grows broader towards the south, the rivers and lowlands there, receiving a greater proportion of these organic substances, are proportionally richer, and the great heat of the climate contributes no doubt to the same effect. This sandy soil is everywhere suited to the culture of maize; and it is only in the alluvium of the rivers where it is intermixed with clay and vegetable mould, that it is adapted to wheat and the other *cerealia*. It is in this zone that the best cotton—the sea-island—is produced.

The soil of the belt of primitive country is, in general, much better than the preceding; and this superiority prevails in comparing the river bottoms as well as the highlands. The portion of this zone which lies in the middle States is richer than that which is either north or south of it. The soil of the high land is for the most part coarse, having a superabundance of gravel and sand from the decomposition of the rocks; but it is occasionally intersected with long strips of red clay, which are more fertile, and which run parallel to the Appalachian chain. Wheat as well as maize is cultivated in the whole of this belt, and also tobacco in the richest portions of its southern half.

The transition belt has a richer and finer mould. It produces the same articles as the primitive belt, with the addition of hemp. The valleys between the ranges of the Alleghany Mountains are commonly very fertile, and are particularly suited to grass. But it is the great tract of secondary formation, between the Alleghanies and the Rocky Mountains, which contains the most fertile land of the United States, and the largest bodies of it. The great valley of the Ohio, comprehending the State of the same name, with Indiana, Kentucky, and Tennessee, and parts of Pennsylvania, Virginia, and Illinois, the soil of which generally rests upon secondary limestone, is perhaps the richest body of

high land, of the same extent, in the world. But even this is exceeded in fertility by the extensive alluvial tracts of the Mississippi, the Missouri, and their principal tributaries; and some of the immense prairies north of the Missouri are little inferior to them. The country west of the Rocky Mountains, so far as it has been explored, seems to possess an average degree of fertility.

Climate.—This must necessarily be very various in a country comprehending, in its widest part, more than twenty degrees of latitude. From the northern extremity of Maine to Florida Point; or from the sources of the Mississippi to its mouth, we pass through every gradation of temperature, from that of intense cold to the region of perpetual spring. There are, however, certain general characteristics, as well as local peculiarities of climate, which deserve notice. The general peculiarities of American climates, east of the Rocky Mountains, are their greater cold in winter, and greater heat in summer, than the climates of western Europe under the same parallel of latitude; the greater dryness of the atmosphere,—the greater quantity of rain, and the more sudden changes of temperature.

The greater degree of cold felt in America than in western Europe under the same parallel, had long been vaguely observed, and is now generally considered equivalent to 9° or 10° of Fahrenheit. It is found that there is the same excess of heat in summer as of cold in winter. The fact admits of a ready solution on the supposition that the *westerly* winds prevail throughout the temperate zones, and is difficult of explanation on any other hypothesis: for, as the ocean is both warmer in winter and cooler in summer than the land, the same westerly winds, which, having blown across the continent, impart their extremes of temperature (whether of heat or cold) to the eastern coasts of America, also impart the milder temperature of the ocean which they have blown over to the western coasts of Europe. All the observations that have been made, whether on the Atlantic itself, or on either of its coasts, show a great preponderance of the westerly over the easterly winds.

The greater dryness of the atmosphere in America, as well as the greater quantity of rain, have been equally well ascertained. Both facts, long since noticed, have been tested by experiment. According to the tables published by Volney, about one-third more rain falls in a year in America than in Europe; but there are nearly one-third more rainy days in Europe than America; from which facts it would seem that the processes, both of evaporation and condensation, are more rapid in the latter country. The cause of the greater dryness of the atmosphere, and the consequent more rapid evaporation, may be found in the prevalence of the west wind, that is, of the wind which has blown over land; but the cause of the sudden condensation of moisture is probably the same as that which produces those abrupt changes of temperature which have been observed in this country. They have

been attributed, apparently with good reason, to the very opposite character of the two prevailing winds; for, if the winds blow from the south or south-west, they bring the hot tropical air from the Gulf; and if they blow from the north-west, they bring it from the regions of perpetual snow. The effect, in either case, is the greater, because, from the comparative lowness of most of the mountains of America, and the regularity of its ranges, the course of the winds is little interrupted; and in some directions, is not interrupted at all. Of these sudden transitions, that from cold to heat, is greatest in the north,—and that from heat to cold, is greatest in the south.

The following local peculiarities of climate have been observed:—

1. As we recede from the shores of the Atlantic towards the mountains, the climate becomes colder; so that a parallel of climate on the Atlantic slope is very different from a parallel of latitude. This circumstance is partly owing to the greater elevation of the land, and partly to the greater distance from the ocean. The latter effect is heightened by another local peculiarity, that is,—2. The Gulf stream, which must impart some portion of its extraordinary warmth to the neighbouring coast. 3. Descending from the Alleghanies to the Mississippi, a contrary change, or an increased temperature, has been observed to take place; and it is even said that the change is greater on the west than on the east side of the mountains, and that the same plants spontaneously grow three degrees further north on the west than on the east. If this higher temperature of the west be established (for it is denied by some), it is probably owing to the south wind, which is said to prevail in the Mississippi valley. 4. There is the same difference between the temperature of the Pacific and the Atlantic coasts as between that of the Atlantic and of western Europe, the west wind, blowing over the ocean, having the same effect in the first case as the last. The climate of the Pacific also has the same extraordinary moisture, which characterizes the western coasts of Europe. 5. The north-east wind, which in the Atlantic States is harsh, damp, and chilly, becomes comparatively dry and pleasant in the western States, having parted with its excess of moisture in blowing over land.

On the subject of salubrity it may be remarked, that all the alluvial country, both on the Atlantic and Mexican Gulf, is unhealthy. Intermittent fevers and bilious diseases are very prevalent there in the autumn, and in some places also in the spring. The climate is far better suited to the African race than to the whites. The wet prairies of the west, and the flat lands annually inundated by the Mississippi, have a similar and yet more insalubrious character. The New England States, with the rest of the belt of primary rocks, and the mountainous districts generally, are the regions most favourable to health and longevity. The other parts of the settled country seem to enjoy the average salubrity of Europe, that is, a less degree than the most healthy parts

of Europe, and a greater degree than the most sickly; from which it would perhaps appear that the extraordinary dryness of the American atmosphere compensates for its great and sudden vicissitudes.

An opinion very generally prevails in the United States that the climate is undergoing a gradual change, in consequence of the continual clearing of the forests; that there is now less rain—less snow—and that the winters are shorter and milder than formerly. Though these facts are possible, yet they should not be considered as established until after a longer and more careful course of observation than has yet been made; and supposing these changes to be established as facts, it is very probable that they are overrated. In the winter of 1831–2, the ice was probably as thick, and the year before the snow as deep, as the oldest man living remembers.

IV.—*The Inhabitants.*

Races.—Those three great varieties of the human family which are most widely separated from each other are all found in the United States; the *white race*, descendants of Europeans, or Europeans themselves; the *black*, or *negro race*, descendants of Africans, or Africans themselves; and the indigenous red man of America. Of these the whites and the blacks are still confined principally to the east side of the Mississippi; while four-fifths of the red or Indian race occupy, as hunters, almost the whole great wilderness west of it. Their respective numbers in 1830 were,—whites, 10,537,378; coloured, 2,328,642, of whom one-fifth may be of the mixed race of white and black; and Indians, estimated at 450,000, of whom 129,266 were within the limits of the States and territories in 1832.

The whites, though descended principally from the English and Irish, may find ancestors in almost every nation of Europe. In some cases the descendants of particular nations are diffused throughout the whole population; but in others they are confined to certain States, or parts of States. Thus, the Germans have settled principally in the western parts of New York, Pennsylvania, Maryland, Virginia, and North Carolina, and more indiscriminately in the western States. The French, or their descendants, are more numerous in Louisiana, Missouri, and the western margin of the Mississippi, than elsewhere. Many of the French Hugonots found an asylum in South Carolina, and a few in the other States, early in the last century; and about the end of it, emigrants from France and the French West Indies settled in most of the cities and towns. The descendants of the Dutch, the original proprietors of New York, are found principally in that State and New Jersey. There are a few of Spanish stock in Louisiana and Florida. Though the descendants of the English, Scotch, and Irish, constitute the basis of the population everywhere, yet the Irish are probably more numerous than the other

two in New York, Pennsylvania, Maryland, and the western part of Virginia, and the Carolinas. The English are more unmixed in New England generally, and in Eastern Virginia, than in any of the other States. But the aggregate population, derived from such different and unequal sources, has, by commingling through several generations, formed one entire mass, though here and there the peculiar tinge of the several elements, both great and small, may be distinctly traced. If we could venture, from such imperfect data as the subject affords, to distribute the white population of this country among the nations of Europe, from which either immediately or remotely they derived their origin, our conjectural estimate of their respective proportions would be as follow :—

English, and their descendants . . .	6,000,000
Scotch	500,000
Irish	2,000,000
German	1,000,000
Dutch	500,000
French	300,000
Swedish, Spanish, Swiss, &c. . . .	200,000

10,500,000

The character of the people of the United States, both physical and moral, is no doubt very similar to that of the European nations from which they are descended. We find in them the same activity of body and mind; the same restless longing for something more and better than they have; the same constancy of purpose; the same invention and acuteness in their pursuits, whether of science or gain, of power or pleasure. They exhibit the same sensibility to the beautiful and the grand; the same high power of combination and deduction; the same propensity to frame laws and regulations, and the same impatience under their restraints; the same endless diversity of temperament and of character;—all those intellectual and moral qualities which have placed Europe before the other parts of the world in letters, arts, and arms. But the similarity, great as it is, has been modified by circumstances. In general the Americans are tall, partly from the climate and from their pursuits, which, whether of pleasure or business, are mostly carried on in the open air; they are strong, from a plentiful and nourishing diet; and they have sallow complexions, from the heat and dryness of their climate. Indeed, the only striking visible changes which the European race has undergone in America are, a greater elongation of person, with less breadth, and a sallow skin. The teeth have been supposed to be more liable to decay in America than in Europe—though upon no sufficient evidence.

There are also many local modifications of the national character

us, the New Englanders are distinguished for hardy enterprise—for mechanical ingenuity—for commercial astuteness. In the slaveholding States, whether middle, southern, or western, the natives are often indolent, improvident, and proud, but are also hospitable, sanguine, frank, and unsuspecting. They are courteous, jealous of their personal dignity, and brave, from their self-respect, their easy circumstances, and abundant leisure. They are also votaries of pleasure—are addicted to gaming, to field-sports, and sometimes to drinking, from the same causes. The women are generally modest, religious, attached to their husbands, and good housewives.

If the habit of being waited on for all purposes, and of meeting with implicit obedience in slaves, often favours irritability or caprice of temper, and sometimes a tyrannical or unfeeling disposition, the habit of forbearance which domestic slavery may also superinduce, occasionally produces remarkable mildness and moderation in the master. Nor is there anywhere be found more striking examples of the amiable virtues, or of those qualities which imply self-command, than in the slaveholding States.

The inhabitants of the western States can hardly be said to have any characteristics to distinguish them from the people of the Atlantic States, from which they were respectively settled, except perhaps a greater freedom of speech and manners. Though the first often exhibits itself in an engaging frankness, it occasionally degenerates into effrontery; and if their habitual contempt for the modes of society that are merely conventional, sometimes amuses by its novelty and simplicity, it sometimes also offends by its coarseness.

The physical character of the negro race is nearly the same in America as in Africa, except that in America the negroes are generally not of so deep a black, and they are often more corpulent. Their degraded condition produces in most of them its natural effect of making them mean, timid, lying, and thievish. Though fear is their governing impulse, they often feel the liveliest attachment to their masters, and to the families in which they have been brought up; and are even proud of their dependance. Strongly addicted to sensual pleasures of every sort, and careless of the future, they are cheerful and happy whenever they are relieved from the immediate pressure of labour. They are distinguished, both from the white and the Indian race, not more by their complexion than by their woolly hair, and the forms of their features, legs, and feet. These obvious physical differences between themselves and their masters contribute to impress upon them, with few exceptions, a sense of the natural superiority of the whites, and thus to reconcile them to their condition. They are generally thought by the whites to be inferior to themselves in intellect, but the fact can scarcely be considered as proved. We must make a large allowance for the absence of every powerful stimulus to the cultivation of their

families, for who ever attained intellectual eminence when less urged by the love of praise, or wealth, or power, none of which motives can operate in this degraded race under the circumstances in which the most fortunate of them are placed? The utmost ambition, on the part of those who are free, is to obtain a decent mediocrity. In the occupations and occupations which they are permitted to practise, such as those of musicians, blacksmiths, carpenters, &c., and in which they can obtain the full rewards of excellence, they are often successful competitors with the whites.

The mulattoes, and all others of the mixed breed of black and white, are manifestly superior to the pure African race, both in body and mind; and it affords matter of inquiry and speculation whether the acknowledged mental superiority of the mixed race may be referred to the stimulus of pride arising from their consciousness of a higher descent, and their supposed physical advantages are to be regarded as imaginary, or resolved into a mere matter of taste; or whether there really is a natural superiority on the part of the whites, a portion of which is transmitted to the mixed race; or lastly, whether, as some have suggested, the mixture of the two races is not an improvement on both. Whatever may be the solution of this question, yet in personal beauty, in strength, agility, vigorous health, and quickness of apprehension, the mixed race appear, as a class, to be very remarkable.

The Indians are distinguished from the other two races by the color of their complexion, and by their long, coarse, coal-black hair, never crisped as that of the African, or curled as is sometimes that of the whites, and by a scantiness of beard. All their senses, at least those of sight, hearing, and smell, are remarkably acute. In war and the chase they are indefatigable; but they are very averse to all regular or mechanical labour. Cold and phlegmatic in their temperament, they have an irresistible craving for spirituous liquors; and the same constitutional peculiarity, aided by their education and habits, produces that insensibility to bodily pain by which they are characterized. Their faces often have the Kalmuc or Tartar expression, but occasionally exhibit the finest models for the sculptor. They have good natural intellects, and excel in public speaking, both as to force of language and grace of delivery. They are much addicted to gaming, and are invariably superstitious. They are commonly faithful to their engagements either to friend or foe; and their high sense of retributive justice is manifested as much in firmly submitting to its decrees as in inexorably enforcing them. These characteristics are most conspicuous in the tribes which have had the least intercourse with the whites; indeed it is generally found that after they have lived, for two or three generations, near the white settlements, they lose all their nobler attributes with their pride of independence, and add the vices of civilisation to their own. The mixed breed are a fine-looking race, and are evidently an

improvement in personal appearance on the Indian, if not on the white man. The Cherokees and the Choctaws have been most successful in cultivating the arts of civilised life. These, with the other principal tribes, are further noticed in the details of the State or Territory in which they live.

Pursuits.—The principal occupation of the people of this country is that of agriculture. Possessing abundance of fertile land, much of which is yet too thinly peopled to afford a rent, they are themselves most liberal consumers of its products, and the more so from the large proportion of the inhabitants who keep horses. Owing to the same abundance of land they are able, after supplying themselves, to furnish distant countries with raw produce cheaper than they can grow it. There are two other circumstances which contribute to confine their industry to agriculture: one is, that in most places the population is not sufficiently dense to admit of that division of labour which is essential to the successful prosecution of manufactures; the other is, that in one half of the States domestic slavery exists, and it is there generally believed that manufactures can less encounter the disadvantages of slave-labour than agriculture, in which there may be some compensation found for slovenly tillage in the greater quantity of land cultivated, whereas, in manufactures, the same careless habits of the slave can find no compensation. But should agricultural products continue to decline in price, a part of the slave-labour, in spite of its inherent disadvantages, will of necessity be diverted to manufactures.

The principal agricultural products of the United States are maize, wheat and other cerealia, tobacco, cotton, rice, sugar, hemp, flax, horses, mules, cattle, and swine. Of these the *maize*, of several varieties, is produced in all the States, and nearly equally well in all, in soils of equal fertility, except that in the Northern States, and in the higher mountainous districts it is sometimes nipt by the frost before it comes to maturity. Its culture is more laborious than that of wheat, but its produce is commonly double, and often much more. *Wheat* also grows in nearly all the States, but it is little cultivated for market north of New York, or south of Virginia. Tobacco is grown in Maryland, Virginia, North Carolina, and the States west of them. It grows well in the more southern States, but the culture of cotton is found more profitable. Cotton grows as far north as Maryland, but it is not cultivated for market further than eastern Virginia. Its culture gradually increases southward, and in South Carolina it is the principal crop. On the Mississippi it is not grown for market north of Tennessee. Rice is grown in South Carolina, Georgia, Louisiana, and the southern part of North Carolina. The cultivation of the sugar cane is almost confined to Louisiana and Florida. A small quantity however is produced in Mississippi and the eastern part of Georgia. Horses and mules are reared for distant markets in Kentucky, Ohio, Connecticut, and some

other parts of New England. Cattle, butter, and cheese for foreign markets are produced in the New England States and New York. Pickled pork and beef are furnished by all the States except the southern. Hemp and flax are cultivated principally in the western States and in the western part of the Atlantic States. Indigo grows readily in the southern States, and was formerly extensively cultivated in South Carolina, but its culture has been discontinued since the trade to Spanish America has been open.

Nearly akin to agricultural industry is that which draws wealth from the spontaneous productions of the earth. The native forests, besides timber, planks, staves, hoops, masts and spars, furnish pot and pearl-shell, tar, pitch and turpentine, and ginseng, an aromatic root in great esteem among the Chinese.

Commerce.—The New England States, with the exception of New Hampshire and Vermont, are more devoted to navigation and commerce than any of the other States. The great number of fine harbours on their coast, their rather meagre soil, harsh climate, and vicinity to the banks of Newfoundland, have all contributed to direct their industry and enterprise to the ocean. Massachusetts, though it contains less than one-twentieth of the whole population of the United States, owns more than one-fourth of the tonnage.

Next to the people of New England, those of the middle States, New York, Pennsylvania and Maryland are the most commercial. Such of the inhabitants of those States, and the Atlantic States south of them, as live near the mouths of the rivers, or on the great bays and estuaries, are generally of seafaring habits. They are extremely skilful both in building and managing those fast-sailing schooners and small craft which are perpetually crossing these broad waters in every direction. A better nursery for active and expert seamen can nowhere be found.

The foreign commerce of the United States extends to every sea and almost to every port on the habitable globe. There is no accessible spot the people of which desire a foreign commodity, and have anything to give in exchange for it, where the American flag and the American sailor are not seen. For many years their navigation has been second only to that of Great Britain, and, if it should continue to grow as it has done, it will in no long time not be second. Their whole tonnage employed both in the foreign and coasting trade is 1,267,847 tons; of which seven-eighths is owned north of the Potomac, and one-half in New England.

The exports consist principally of cotton, flour, maize, tobacco, rice, lumber of every kind, beef, pork, fish, tar, pitch and turpentine, horses, cattle, apples, potatoes, and some manufactured commodities. They amounted in 1837, exclusive of the foreign merchandise re-exported, to more than ninety-five millions, which were thus distributed:—

	Dollars.
Products of the fisheries	2,711,452
Products of the forest	5,472,313
Animal products	2,366,064
Vegetable products, viz.	
Flour, rice, &c.	6,820,542
Cotton	63,240,102
Tobacco	5,795,647
Miscellaneous	162,926
	<hr/> 76,019,217
Manufactures	8,425,559
Articles not designated.....	569,809
	<hr/> 95,564,414

The principal imports are coffee, tea, sugar, molasses, cocoa, salt, wines, brandies, rum, gin, spices, raisins, olives, capers, and other condiments from the Mediterranean, paints, drugs, dyes, copper, iron, steel, tin, zinc, jewellery, watches, cutlery, hardware, pottery, porcelain, wool, hemp, sailcloth, cordage, toys of every kind, books and prints, together with all the finer products of the loom, whether of silk, flax or cotton, of which imports about two-fifths are received from Great Britain and her possessions. Their annual amount has, for three years, averaged 104 millions of dollars, including 20 millions which are re-exported. The cotton, tobacco, rice and sugar, with a part of the flour and grain, are produced exclusively by slave-labour.

Manufactures.—By far the greater part of the articles manufactured in the United States are household; the mass of the planters and farmers clothe themselves and their families in fabrics made in their own houses. These manufactures are principally of cotton or wool, with a portion made of hemp or flax. But there are also extensive manufactories of cotton or wool in all the States north of Virginia, and in the State of Ohio. It is estimated that of the fabrics both of wool and cotton consumed in the United States, about two-thirds are manufactured in the country.

The following articles are supposed to be fabricated in the country to an extent equal to the consumption; the quantity imported being probably equalled by the quantity exported. 1. *Mineral products.* Alum, copperas, copper stills, iron pots, kettles, stoves, and all common tools, cannon, muskets and rifles, gunpowder, shot, tin ware of all kinds, nails, coarse pottery. 2. *Animal products.* Boots and shoes, brushes, candles, hats and caps, leather, saddles and harness, soap and trunks. 3. *Vegetable products.* Cotton fabrics of coarse and middling qualities, cabinet ware, cables and cordage, cards for manufactures, carriages, chocolate, combs, flannels, lampblack, paper, paper-hanging, playing

cards, refined sugar, snuff, spirits from grain and fruit, and spirits of turpentine.

The following are extensively manufactured, and divide the home market with their foreign rivals, though they cannot compete with the latter in other countries. 1. *Mineral*. Brass and iron, wire, fenders and bar iron, sheet iron, steam-engines, some of the nicer tools, buttons gilt and plated, copper sheathing, chrome yellow, manufactures of lead generally, jewellery, clocks, gold leaf, plate, window glass, glass-ware of all kinds, porcelain, salt, saltpetre, Epsom salts, various chemical drugs, woodscrews. 2. *Animal*. Blankets, broadcloth, carpets, casinets, gloves, sewing silk, fringe silk and worsted, embossed buttons, umbrellas. 3. *Vegetable*. Calicos, cotton bagging, sailduck, cotton and hempen floor-cloths and other oil cloths, unbleached linen, books and stationery, cigars and other manufactures of tobacco, thread lace, hats and bonnets of straw or palmetto, hair cloth, pianos, organs, and other musical ornaments, rum, porter and ale.

According to the returns made by the marshals who took the census in 1810, the whole annual value of the manufactures of the United States was then estimated at 172 millions of dollars, and at this time they have without doubt increased to more than double that amount.

A very active domestic commerce is also carried on among the several States, which may be divided into three kinds: 1. That which is carried on coastwise, up the bays and large rivers, and on the great lakes, in schooners, sloops, and steam-boats. This trade is not confined to the domestic products of the several States, whether of agriculture or manufactures, but it extends to most articles of foreign merchandise which the States having the most shipping and capital furnish to those whose pursuits are chiefly agricultural. The amount of tonnage engaged in the *coasting trade* is now 647,395 tons. 2. That which is carried on principally in *steam-boats*, but partly in rude *flat-bottomed boats* on the Mississippi and the principal rivers which flow into it. The number of steam-boats engaged in this internal commerce in 1832, was, according to an official report to Congress, 220, measuring 38,500 tons, and their whole line of river navigation on 23 rivers and their tributaries, was 8,440 miles. The whole number of flat boats measured 160,000 tons; most of these however, make but a single voyage down the river, at the end of which they are sold and broken up for their materials. New Orleans is the great centre of this trade. It receives all the products of the western States which are destined for distant markets, and is the great *entrepôt* for all the products which they receive from abroad, or from the Atlantic States. 3. The *overland trade* between the Western and the Atlantic States. This consists principally in hogs, horses, cattle and mules, which are driven to the Atlantic States every year to the amount of many millions of dollars. Payment for these live animals is always made in money; as no merchandise could

bear the expense of such distant and difficult transportation since steam navigation has been used on the Mississippi. It is, however, expected, that the canals and railroads which have been undertaken between the Ohio river and the Atlantic States, will be used for transporting the bulky commodities of the west, as well as passengers and fine merchandise. The number of these artificial communications has been greatly multiplied within a few years. More than 2,262 miles of canal and 606 miles of railroad were completed in 1832, and 264 miles of canal, and 160 miles of railroad were then in progress.

Among the facilities of commerce may be added the banking institutions, which in the more commercial States have been multiplied to an extent neither suited to the existing capital of the country, nor consistent with a sound and unvarying paper currency. In January, 1830, the whole number of banks in the United States was 331, their capital 145,192,268 dollars, and their paper in circulation 61,323,898 dollars. In January, 1838, the number of banks had increased to about 829, their capital to 317 millions of dollars, and their circulation to 116 millions.

Government.—The United States at the time of the formation of the general government, as well as at the time of their separation from Great Britain, consisted of thirteen distinct political communities, Massachusetts, New Hampshire, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina and Georgia. The number is now increased to twenty-six by the successive accessions of the following States: Vermont, Kentucky, Tennessee, Ohio, Louisiana, Indiana, Mississippi, Illinois, Alabama, Maine, Missouri, Arkansas, and Michigan.

In framing their present complex system of polity, the States had a reference to the most striking peculiarities of their condition:—to the great extent of the country; the general dispersion of its inhabitants; their comparative equality of property and of rank; and the great diversity among the States in extent and population; in pursuits, institutions, and laws.

They formed a Federal Government to ensure defence from foreign aggression, and tranquillity at home; to encourage and protect commerce; and for a few objects of internal legislation in which uniformity among the States was desirable, and an obvious and direct common interest existed. To the separate States was left that far wider field of legislation which concerns the law of property, the punishment of offences, the administration of justice, and indeed the exercise of all powers over the territory and the citizen except the few which have been either expressly withdrawn from the States, or delegated to the general government.

Both the general and the separate governments are essentially democratic. In both it is assumed that the interest of the majority is the only legitimate aim of government, and that their wishes truly indi-

cate that interest. The machinery provided to promote this greatest good of the greatest number, and to guard against its abuse towards the minority, is as follows :—

¶ By the constitution of the United States the power of the general, or federal government, is divided into three branches ; the legislative, executive, and judicial.

The legislative power is vested in two Houses. One, called the House of Representatives, is chosen every second year by those whom the laws of each State make legal voters. The number of representatives is not fixed, but has gradually increased from 65, in 1789, when the constitution went into operation, to 242, the present number. The representatives must, however, be apportioned among the States according to their population, deducting two-fifths of the slaves in the estimate ; and for the purpose of correcting the inequality of distribution arising from the variations in the relative numbers of the States, a census of the inhabitants is required to be taken every ten years, at which time a new apportionment takes place, and a new ratio of population to each representative may be then also adopted, or the former one be continued. According to the present ratio of 47,700 persons to each representative, the 242 members are thus distributed among the several States :—

Members.		Members.	
Maine	8	Brought forward ...	155
New Hampshire.....	5	South Carolina.....	9
Vermont	5	Georgia	9
Massachusetts	12	Alabama	5
Rhode Island	2	Mississippi	2
Connecticut	6	Louisiana.....	3
New York	40	Tennessee.....	13
New Jersey	6	Kentucky.....	13
Pennsylvania	28	Ohio	19
Delaware	1	Indiana.....	7
Maryland	8	Illinois	3
Virginia	21	Missouri	2
North Carolina	13	Arkansas	1
	—	Michigan	1
Carried forward	155		—
	—		242

The other house, called the Senate, consists of two members from each State, chosen by its legislature, and consequently the whole number is now 52. One-third of the members is elected every second year, so that each member holds his seat for six years. In both houses the members are re-eligible.

All acts of legislation require the concurrence of both Houses, which constitute the Congress of the United States. They have the power of

levying taxes of every kind for all national objects confided to them ; of regulating commerce, foreign and domestic ; of coining money ; fixing the standard of weights and measures ; establishing post-offices and post roads ; prescribing a uniform rule of naturalisation, and a uniform bankrupt law ; creating and supporting an army and navy ; of declaring war ; defining and punishing treason, piracy, counterfeiting, and other offences arising under the constitution and acts of Congress ; exercising exclusive legislation in the district of Columbia, in forts, arsenals, dock-yards, and all the territories belonging to the general government ; and lastly, the power of admitting new States into the Union.

The Congress is, by the same instrument, prohibited from laying any tax upon exports ; from giving a preference to the ports of one State over those of another ; from laying any direct tax except according to the number of inhabitants in each State who are represented in Congress ; from suspending the writ of *habeas corpus*, except in case of rebellion or invasion ; from passing any bill of attainder or *ex post facto* law ; from granting, or permitting to be granted, any title of nobility ; or from passing any law to restrict the freedom of religion, of speech, or the press.

It has no power to make laws concerning landed property or chattels in the several States, or the personal rights of individuals, or for the punishment of crimes generally, or other matters of a municipal or local character, for these powers are not specially granted by the constitution, and it can exercise no other. Congress must assemble at least once in every year, which of late has been on the first Monday in December. The members of both Houses receive eight dollars for each day's attendance, and also for every 20 miles which they must travel to the seat of legislature and in their return home.

The powers of this body to give special encouragement to manufactures, to make roads and canals, to establish banks and other corporations, and to exercise some other legislative functions, are contested points in the construction of the federal constitution ; and these questions often furnish the real or ostensible grounds of dispute between political parties. The frequency and the bitterness of these controversies seem to justify a liberal deduction from the benefits of a written constitution ; for, from the unavoidable diversities of sentiment, and the ambiguity and imperfection inseparable from language, no such constitution could be framed which ambitious men will not seek to twist to their purpose, which ignorant men cannot be made to misunderstand, and which even the honest and intelligent may not interpret differently.

The executive power is vested in a president, who is commander-in-chief of the army and navy, collects and disburses the revenue according to law, makes treaties with foreign nations, and appoints the higher officers of state ; but, in the exercise of the two last powers, the concurrence of the senate is required. He has also a qualified negative

on the laws, which becomes absolute unless it is subsequently counter-vailed by two-thirds of each house of Congress. He is provided with a ready-furnished house, and his salary is 25,000 dollars, equal to about 5,000 guineas a year. He is chosen by 294 electors; the voters in each State electing as many electors as are equal to the members which such State sends to both houses of Congress. Every State has its own electoral college, and all the colleges give their votes on the same day. If no person has a majority of the 294 electoral votes, the election devolves upon the House of Representatives, when all the representatives of a State give but one vote. The president must be 35 years of age, and he is re-eligible for life, but the usage has been never to elect the same person for more than two terms of four years each.

The executive business is distributed among four departments; that of the state, of the treasury, of war, and of the navy; the four secretaries of which, with the attorney-general, reside at the seat of government, and compose the president's cabinet council.

The vice-president is chosen at the same time and in the same way as the president, to whose office, if vacated during the term for which he was elected, he succeeds. His only function, in the mean while, is to preside over the deliberations of the senate. His salary is 5000 dollars.

The judicial power is confided by the constitution to a supreme court, and such inferior tribunals as Congress may from time to time establish. As at present organised the supreme court consists of a chief-justice, and eight associate judges. The inferior tribunals are, first, twenty-six circuit courts, composed each of one of the judges of the supreme court and a district judge; and secondly, thirty-four district courts, each State containing one, and some of them two. The several courts have either original or appellate jurisdiction in all admiralty cases, breaches of the revenue laws, controversies between citizens of different States, or citizens and foreigners; cases affecting ambassadors and other public ministers; and in all cases criminal or civil, in law or equity, arising under the constitution or the laws of the United States. The judges all hold their offices during good behaviour; and their salaries, which vary from 5,000 to 1,000 dollars, cannot be diminished even by the legislature, during their continuance in office. All public officers are removable by impeachment, and the senate is the tribunal for the trial of impeachments; but the judgment in these cases extends no further than to removal from office.

The constitution provides for its own amendment, whenever such amendment shall be proposed by two-thirds of both Houses of Congress, or by a convention called on the application of two-thirds of the States: but in either case, the amendment must be ratified by three-fourths of the States to give it effect. There have been twelve amendments in fifty years: ten were made immediately after the constitution went into operation, and were meant to provide some additional security for the

protection of the rights of individuals, or of the States; the eleventh was restricting the liability of a State to be sued in a federal court, and the twelfth altered the mode of electing the president and vice-president.

This instrument also imposes express restrictions on the State governments. They cannot enter into a treaty or alliance; coin money; emit bills of credit;* make anything but gold and silver a legal tender; pass a bill of attainder or *ex post facto* law; impair the obligation of contracts; grant any title of nobility; lay a duty either on imports or exports; nor can they, without the consent of congress, enter into a compact with another State; keep troops or ships of war in time of peace; or engage in war, except in case of invasion or of similar urgency.

The State governments, with a few great features in common, have great diversities, not merely in their laws, but in their written constitutions. In all, the legislative, executive, and judicial powers are separate and distinct. In all, with the exception of Vermont, the legislature consists of two branches; one usually called the Senate, and a more numerous branch, which is variously designated.

The time for which the senators are elected varies from one to five years. In the more numerous and popular branch the members are elected annually, except in South Carolina, Tennessee and Missouri, where they are elected for two years, and in Connecticut and Rhode Island, where the elections are half-yearly. The number of members in the popular branch varies from about 50 to 500. It is in one-half of the States under 100. The number of the Senate is usually from about one-fourth to one-half the number of the other branch.

In all the States the executive power is vested in a governor, who, in some of the States, is assisted by a council. In some he has the power of appointment to state offices; in others, merely the power of nominating persons to his council; but in most States he has neither the one nor the other. He is chosen by the *people* in all the States, except in Maryland, Virginia, North and South Carolina, in which he is chosen by the *legislature*. His term of service varies in the different States from one to four years, and he is in some States re-eligible, and in others not.

Their judicial systems are yet more various than their legislatures. In the greatest part the judges hold their offices during good behaviour. In the others they receive their appointment for a fixed term, varying from even years to a single year. In one State, New York, they retire from office when they reach the age of sixty. In some States they are appointed by the governor and council; and in others, by the legislature. In some they are removable only by impeachment; in others, on the

* This phrase is borrowed from the Articles of Confederation of the old Congress. The paper money issued by that body was thus designated.

condition of being immediately subject to the general government, though they have no participation in its political power. Over these the legislative power of Congress is supreme; but it is so exercised as gradually to fit them for admission into the Union. At first, they are administered by a governor, appointed by the federal executive. When, by the progress of the settlements, they are deemed fit for it, they are advanced to the second stage of their probation. Of late years, the rights of the second stage are conferred on the territories at the time of their creation. They are then allowed to elect their own local legislature—the executive power continuing as before—and to send a member, called a delegate, to Congress, who has the privilege of speaking, but not of voting: and lastly, when their numbers justify it, and Congress approves, they are admitted into the Union, and enjoy all the privileges of State. There are now three of these territories in the second stage, Florida, Wisconsin, and Iowa.

The district of Columbia, which contains 100 square miles, ceded by the States of Maryland and Virginia to the federal government for its permanent seat, is also subject to the immediate and exclusive legislation of Congress; but the chief part of the power has been delegated to the free corporations of Washington, Alexandria, and George Town.

The annual revenue of the general government being derived almost wholly from customs and the sales of public lands, varies very greatly in different years. For the last ten years it has been from about twenty to forty millions of dollars.

The expenditure may be thus distributed according to the Treasury estimates for 1839:—

Civil List, comprehending the expenses of the legislative, executive, and judiciary,	Dolls. 3,658,157
Army, including fortifications, serving the militia, national roads, &c.	9,284,496
Navy	5,381,096
Pensions of all kinds, revolutionary, invalids, &c.	2,499,020
Indian department,	842,320

Dolls. 21,665,089

The public lands have now become a considerable source of revenue. During the three years preceding 1838 there were sold more than 38,000,000 acres, the purchase money of which was 48,175,160 dollars. Although the excessive issues of the banks afforded both the opportunity and the means to extensive speculations in these lands, and made the amount sold much greater than it had ever been before, or is likely to be again, the annual receipts from this source will probably not be less hereafter than three or four millions, and gradually still increase. Since their proceeds are no longer required by the demands on

in most of the Western States, and in all the territories of those lands in the unsettled western territory, which recently purchased of the Indians. The system adopted for disposing of these lands, is admirably contrived to prevent disputes about titles or boundaries, a tedious purchases by speculators impracticable. The lands are first surveyed by the government; and are then laid off into townships by true meridian lines. Each township is 36 sections of a square mile each, which sections are laid into four quarter sections, each of 160 acres, and some into quarter and quarter-quarter sections. The space between the margin of a river, or Indian boundary, is laid off into parts of a section. When thus laid off, the lands are sold at public auction, provided they bring the minimum is a dollar and a quarter per acre. Formerly the minimum was two dollars, and the lands were sold partly on credit; to avoid the present inconvenience and future danger of the government in the delicate relation of creditor to so many. Congress in 1820 reduced the minimum price, and abolished the public land to which the Indian title has been extinguished which was unsold on the 1st January, 1832, was 22' The whole business of surveying and disposing of the lands is managed by a general land office at Washington, and 6% is tributed among the western states and territories, all the rest of the Treasury department.

The army of the United States is restricted by law to a number barely sufficient to garrison the forts and arsenals.

s, where 250 cadets are educated at the public expense, and the meritorious, on completing a prescribed course, are entitled to a commission in the army.

The navy consists of eleven ships of the line; one ship of 54 guns; ten frigates, of forty-four guns; two, of thirty-six; and fourteen ships-of-war. There are also four ships of the line and six frigates on stocks, and two steam-ships have lately been ordered to be built by experiment.

There are navy yards at Portsmouth, in New Hampshire; at Charles-town, Massachusetts; at Brooklyn, New York; at Philadelphia; Washington city; Gosport, in Virginia; and Pensacola. The government has at these navy yards a large supply of live oak and other seasoned timber, and is enabled to make a considerable addition to the navy whenever it should be required. There is a dry dock for the repair of ships of war at Charlestown, Massachusetts, and another at Gosport. The building, equipping, and equipping of the navy are immediately directed by a navy board, composed of three post captains, who act under the control of the secretary of the navy.

Post-office.—The post-office establishment draws a considerable revenue from the people (more than 2,000,000 dollars), but the whole is balanced by its expenses, without finding its way into the treasury. This more strikingly indicates the rapid increase of the United States numbers, commercial intercourse, and improvement, than the increase of business in this department, exhibited in the following statement:—

	Number of Post-Offices.	Miles of Post-Road.
In 1790	75	1,875
1800	903	20,817
1810	2,300	36,406
1820	4,500	72,492
1830	8,450	115,176
1838	12,553	134,818

Mint.—The mint was established in 1792 at Philadelphia, where it remains. The whole amount coined in 1832 was 3,765,710 dollars, of which 978,550 dollars were in gold coins, 2,759,000 dollars in silver coins of half dollars and smaller coins, and 28,160 dollars in copper. Nine-tenths of the gold were furnished by the gold region of the United States. There is no charge for coinage. The alloy of both gold and silver coins is one-tenth of their weight, and all the coins are reduced to the decimal arithmetic. The law which established the mint rated one ounce of pure gold as equal to fifteen ounces of silver; but as this ratio rated gold much below its price in the market, it was barred from circulation, until a change in the law, by making an ounce of gold equivalent to sixteen ounces of silver, lately remedied the mischief. It remains to be seen whether this proportion, by rating gold too

high, may not have the effect of driving silver from the country. The dollars of Mexico and other parts of Spanish America constitute a large part of the metallic currency of the United States, and as a money account, have almost superseded the pounds, shillings, and pence of the different States.

Religion.—As freedom of opinion and worship are guaranteed to all, both by the federal and the State constitutions, religion assumes almost as many forms in the United States as there are modes of faith. The predominant sects are Methodists, Presbyterians, Baptists, Roman Catholics, Episcopalians, Universalists, Unitarians, and Quakers. Some of these denominations consist of several distinct sects : thus, the Presbyterians comprehend the Congregationalists ; and under the general term of Baptists are included the free-will, the seventh-day, the six-principle Baptists, &c., besides the original and principal sect of that denomination.

The local distribution of the principal sects is as follows :—

The Presbyterians are the prevailing sect throughout New England, New York, New Jersey, Pennsylvania, and the western parts of Maryland and Virginia. They are also numerous in the north-western States.

The Methodists are more generally diffused throughout the States than any other sect. They are least numerous in New England and Louisiana, and most numerous in the middle States. This sect is under the superintendence of six bishops. The Baptists are the predominant sect in Rhode Island, Virginia, Kentucky, and most of the States south of them.

The Catholics are numerous in the cities of the middle States in which many Irish and French are found : they are dispersed all over Maryland, have many congregations in Missouri, Illinois, and a part of Kentucky ; and are the predominant sect in Louisiana. They are under the government of an archbishop and ten bishops.

The Episcopalians, agreeing with the church of England in doctrine, discipline, and forms, have congregations in all the Atlantic States, and in most of the western. They are most numerous in Connecticut, the middle States, Virginia, and South Carolina, but in none do they hold more than the third or fourth rank in point of numbers. They have twelve bishops in the Atlantic States, one in Ohio, and another in Kentucky.

The Unitarians have churches in all the large cities, from Boston to Washington, inclusive ; they have, however, made little progress in country places, out of Massachusetts.

The Quakers are most numerous in Pennsylvania : they have also congregations in New York, Virginia, North Carolina, and in all the New England States.

The whole number of settled ministers of religion in the United States,

The last reports from the different sects, exclusive of the stationary preachers of the Methodists, was upwards of 10,000, and the houses of worship about 15,000.

Besides these distinct sects there occasionally arise schisms in the congregation, either from personal collisions or individual peculiarities of opinion, by which it is separated into two parts, and each chooses its favourite pastor, without any change of denomination, discipline, or mode of worship.

It was once supposed that, in the entire freedom of religion which exists in the United States, the dissensions of the different sects would disturb the public tranquillity; and after the experiment was made, and several denominations were found to live in harmony, it was apprehended that a general lukewarmness and indifference to religion would be the consequence of such a state of general quiet: but this it has been also contradicted by experience. It is found, that, since none of the rival sects derive any special aid from the laws, and each is compelled to rely upon its own merits of superior zeal, and talents, and piety, the spirit of emulation which has been thus produced is more favourable to fanaticism and puritanism than to indifference; and upon this supposed excess of zeal that the censurers now ground their objections in favour of an establishment by law. But such a scheme seems to be utterly impracticable: nor are the apprehended evils likely to admit of strong counteractions.

Education.—The rudiments of instruction are more generally diffused among the people of this country than among those of any other except Scotland, and some parts of Germany, and more in New England and New York than they are even in Scotland. But a thorough education in the higher departments of learning and science is confined to a much smaller number than in most States of Europe.

There are now about sixty institutions, holding the rank of universities, or colleges, and having the power of conferring degrees. In these, a portion of the youth are initiated in the elements of physical science and philological studies, and then, for the most part, betake themselves to one of the three professions of law, medicine, or divinity: perhaps about a third of the members of these professions have been thus instructed. The number of students attending these institutions is between 5,000 and 6,000. Four years is required for the regular course in most of the colleges, but as many students enter at once into the higher classes, and in some colleges there is no established course, between two and three years may be regarded as near the average term. In this time they are enabled to add something to their classical acquirements, and to obtain a tolerable knowledge of the principles of natural philosophy, moral philosophy, and the easier branches of mathematics.

Of all the professional schools the medical are upon the most respectable footing, partly because the science of medicine can be taught to

advantage only in schools, and partly because the profession itself, which is more profitable than any other at present, can pay better for instruction. There are now twenty-eight medical schools in the United States, containing in all about 144 professors, and annually attended by more than 2500 students. Two years' attendance is commonly sufficient to obtain the degree of Doctor of Medicine.

The education of a lawyer is generally still more superficial. The study of the law is commonly prosecuted in a lawyer's office, immediately after the student leaves college. Here he learns the forms of pleading, both at law and in equity, and the rules of practice, together with as much of the principles of the common and statute law as can be acquired in two years, at the end of which time he obtains a license to practice, which is indispensable in all the States. Many, indeed, enter on the study without the advantage of a college education, and without much previous instruction of any kind,—yet, by dint of persevering industry, united with natural shrewdness, address, and a ready eloquence, they win their way to fame and fortune. In this way they educate themselves, and their minds thus acquire that self-confidence—the fertility of expedients—that talent of making the most of what they know, both as to using it and showing it off, which commonly characterises self-taught men. Occasionally, the professional lawyer, devoting his spare time to legal studies, with the advantage of an enlarged and varied experience, becomes very able in his profession; and, as he is obliged to make himself acquainted with every branch of the law, and to discharge by turns the duties of attorney, special-pleader, solicitor, counsellor, and advocate, he is likely to have both juster and more liberal views than one whose mind always moves in the same narrow circle, and to acquire a versatility of talent which peculiarly fits him as a possessor for the diversified duties of life. It is, indeed, this variety in the American lawyer's study and experience, which tends to compensate him for never having studied the fundamental principles of jurisprudence, and of that refined but sound philosophy which is often involved in the provisions of his own code.

Law schools have been established, within a few years, in several of the States, in addition to those which previously existed in some of the colleges. The number of students in both descriptions of schools probably does not exceed 300.

The education of the ministers of religion is very various among the different sects, and even in the same sect. The Presbyterian, Unitarian, Episcopalian, and Roman Catholic ministers, have, with few exceptions, not only received a good academical education, but have been also regular students of divinity. There are now 49 theological seminaries which have been established by the different sects, and where the sole object is to prepare the student for the ministry. They have commonly from two to four professors, and are attended by upwards of 1200 students,

very unequally distributed. By far the larger part of the preachers of the two most numerous sects, the methodists and baptists, are self-educated; and they are led to undertake the ministry of the gospel by the enthusiasm which fervid and eloquent preachers have excited, especially at those large assemblages which are annually held by these, as well as the other leading sects throughout the Union. As soon as the candidate for the ministry feels himself qualified for the office, he undergoes an examination by the elders of the sect, and commonly a term of probation, and if these prove satisfactory, he obtains a certificate by which he is regularly installed in all the privileges of the clerical function. Both these sects have made the most praiseworthy efforts of late to remedy the defect of education under which most of their ministers out of the cities have hitherto laboured, and probably their inferiority in this respect will prove but temporary. It must be recollected, that any individual may set himself up as a religious teacher in the United States: and, if he has the talents or address to recommend his claims, he is sure of an attentive, and commonly a favourable audience. It is in this way that new sects are ever springing into existence, and occasionally passing out of it.

For further details concerning education, and especially popular education, the reader is referred to the notices of the separate States.

V.—*Political Divisions—General View—Details—Remarkable Localities—Cities—Towns, &c.*

The whole twenty-six States, and the three territorial governments, all lie on the east side of the Mississippi, with the exception of the States of Missouri, Louisiana, and Arkansas, and the territory of Iowa. All the rest of the vast region west of that river to the Pacific Ocean is in its primeval state of forest, prairie, or desert, and is occupied by the Aborigines of the country.

The States naturally arrange themselves into five divisions, both according to their geographical position, and the character, pursuits, and commercial interests of their respective inhabitants.

	States.
1. <i>The New England States</i> , comprehending Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut .	6
2. <i>The Middle States</i> , New York, New Jersey, Pennsylvania, Delaware, and Maryland	5
3. <i>The Southern States</i> , Virginia, North Carolina, South Carolina, and Georgia	4
4. <i>The South-western States</i> , Alabama, Louisiana, Mississippi, Tennessee, and Arkansas	5
5. <i>The North-western States</i> , Missouri, Kentucky, Illinois, Indiana, Ohio, and Michigan	6

THE NEW ENGLAND STATES.—I. MAINE.

This State contains the most eastern part of the United States, is the most northern of the States yet formed. It is bounded north-east and east by New Brunswick, and on the north and west by Lower Canada, by lines not yet definitively settled; on the south by New Hampshire, 160 miles; and on the south-east by the Atlantic Ocean, about 240 miles, without reckoning the indentations of the coast. If the settlement of the northern boundary made by the Treaty of the Netherlands, as umpire between the British and American Governments, be confirmed, the area of this State will be about 30,000 square miles.

Mountains.—A part of the great Appalachian chain constitutes the northern and north-western boundary of the State, and goes by the name of the *Highlands*. The *Bald Mountain* ridge seems to branch off from that chain to Moose Lake, and is about 24 miles in length; it nowhere exceeds 4000 feet in height. Besides the mountain ridges that have been mentioned, there are several single mountains, of which the highest and most remarkable is the *Katahdin*, a solitary mountain near the middle of the State, 5385 feet high.

Rivers.—The *St. Croix*, which separates Maine from New Brunswick, empties into Passamaquoddy Bay, and has good navigation for small vessels. It consists partly of a chain of lakes, and is altogether less than 80 miles long. The *Penobscot* rises in the Highlands, and after expanding into several lakes, unites with what is called the Eastern River, and flowing in a southerly direction, empties into the bay of the same name. It is navigable for large vessels to Bangor, 50 miles from the mouth; it is the largest river in Maine, and its length is about 250 miles. The *Kennebec* rises in the Highlands, has nearly a south course, and falls into Merrymeeting Bay, after a course of near 200 miles. The *Androscoggin* also rises in the Highlands, and after entering New Hampshire, returns to Maine, enters the same bay as the Kennebec, and has about the same length. The *Saco* rises in the White Mountains of New Hampshire, and after an irregular course of 160 miles to the south-east, through Maine, falls into Saco Bay.

This State contains numerous lakes, the largest of which, *Moosehead*, is 50 miles long, and from 10 to 15 broad. *Chesuncook* is 20 miles long and 3 broad. *Umbagog* Lake lies principally in this State, and partly in New Hampshire. It is 18 miles long, and 3 broad.

Maine has more good harbours than any other State, as Passamaquoddy, Machias, Frenchman's, Penobscot, and Casco Bays, with others of less importance. Some of these bays contain numerous small islands, which are mostly under cultivation.

The soil near the coast is generally poor, but between the Kennebec and Penobscot it is very fertile. Indian corn, wheat, barley, rye, potatoes, and flax, are the chief productions of Maine; but, in general, lands are better adapted to grazing than cultivation. The "improved" land hardly exceeds a thirtieth of the whole State, the rest being still covered with its native forests. The only minerals yet discovered are iron, which is abundant; lead in small quantities, marble, slate.

The climate is very cold and raw. The spring is commonly rainy, and the winter tempestuous. Snow lies from three to five months, according to the distance from the coast, and in the mountainous parts is often five feet deep. But, with all this severity, the climate is very healthy.

The population of Maine increases faster than that of any other part of New England. By the census of 1830, it was 399,955, and its increase for the preceding ten years was near 34 per cent. The State is divided into 10 counties and 300 "towns," or townships. Of these the most important are, *Portland*, once the capital, situated on a peninsula in Casco Bay. It has a safe and accessible harbour, and is well defended by forts. Its population is 12,601, showing an increase in 10 years of 50 per cent. It is well built, and has an unusually large trade in foreign tonnage, both coasting and foreign. *Brunswick*, a thriving town on the south side of the Androscoggin, has great water-power, and several mills. Its population is 3,547. *Bath*, on the west side of the Kennebec, 12 miles from the sea. Population, 3,773. *Hallowell*, on the same river, 40 miles above its mouth. Population, 3,694. *Gardiner*, 4 miles south of Hallowell. Population, 3,709. *Augusta*, also on the Kennebec, two miles above Hallowell, is now the seat of government. The river is navigable to this place for vessels of 100 tons. Population, 3,980. *Wiscasset*, *Waldoborough*, and *Thomaston*, on the coast, between the Kennebec and Penobscot. The population of each is from 3,000 to 4,000. *Bangor*, at the head of tide-water on the Penobscot. Population, 2,863. *Old Town*, or *Orono*, 12 miles above Bangor on the same river. Population, 1,472. *York*, on the coast, 42 miles south-west of Portland. Population, 3,485. *Saco*, on the river of that name, near its mouth. Population, 3,219. *Machias*, on the bay of that name. Population, 2,775. *Belfast*, on the east side of Penobscot Bay. Population, 3,077. *Castine*, on the opposite side of the same bay. Population, 1,155. *Eastport*, on Passamaquoddy Bay, the most eastern limit of the United States, is on Moose Island, at the mouth of the St. Croix. Population, 2,450. *Lubec*, opposite to Eastport, on the same bay. Population, 1,835. *Calais*, a very thriving town, on the Schoodie river. All these towns, and a few others little inferior in population, are very flourishing; they carry on a brisk trade, principally in lumber and fish, and are increasing in a still greater ratio

than the State. In many of them the population in 1839 more than doubled the amounts here given from the census of 1830.

Commerce may be regarded as the leading pursuit of the people of this State, and as their trade consists chiefly in the products of the forest or the fisheries, the amount of their shipping is disproportionately great. The tonnage of this State ranks next to that of Massachusetts, and New York, and amounts to 161,307 tons. Its exports, including what are sent coastwise, are estimated at 8,000,000 of dollars annually. The fisheries are carried on partly by boats and small vessels near the shore, which everywhere swarms with fish, and partly by large vessels employed in the Labrador and Newfoundland fisheries. The fish annually taken is worth half a million of dollars. Manufactures have made less progress here than in any other part of New England. They were estimated in 1820 at 2,138,000 dollars annually, and at this time are considered to amount to 3,051,000 dollars. On the 1st of January, 1830, there were 18 banks in the State, whose united capitals were 2,000,000 dollars. There is but one canal in the State, which extends from Portland to Sebago Pond, 20½ miles.

Ample provision has been made for education in this State, both in its higher and elementary branches. Every town is required to raise, and to expend in common schools, a sum equal to 40 cents for each inhabitant. About three-fourths of the children in the State attend these schools. *Bowdoin College* is a well-endowed institution at Brunswick, having a president, with six professors, and about 140 students, besides a medical school with three professors. Its library contains 12,000* volumes. *Waterville College* is a literary and theological institution, under the direction of the Baptists, with about 45 students. There is also a theological seminary at Bangor for the Congregationalists, and a Wesleyan Seminary, at Readfield, for the education of Methodist preachers. Besides the preceding, there are 28 incorporated academies, which are mostly endowed with grants of land from the legislature. The prevailing religious sects in the State are Baptists, Methodists, and Presbyterians. There are also 30 societies of Quakers, 12 of Unitarians, 8 of Catholics, and 4 of Episcopalians.

This State long continued a part of Massachusetts, though entirely separated from it by New Hampshire. It was admitted into the Union in 1820. Its legislature is composed of a senate of 25 members, and a house of representatives of 187. The ordinary revenue is about 250,000 dollars.

* In most of the American colleges the societies formed by the students have libraries as well as the colleges. The whole number of books is included in these estimates.

THE NEW ENGLAND STATES.—II. NEW HAMPSHIRE.

This State is bounded on the *east* by the Atlantic, 18 miles; by the Piscataqua river, 40 miles, and a meridional line, 120 miles, which two last separate it from Maine; on the *north-west*, by Lower Canada, from which it is in part separated by the Connecticut river, about 35 miles; on the *west*, by the same river, which separates it from Vermont, about 150 miles; on the *south*, 60 miles, and the *south-east*, 30 miles by Massachusetts. It contains 9,496 square miles.

A range of mountains traverses this State from south-west to north-east, and is a continuation of the great Appalachian chain. Between the Connecticut and Merrimack rivers its course is nearly north and south, and it is there called the *White Mountain Ridge*. Its highest summits scarcely exceed 3000 or 4000 feet, but as the chain proceeds northward, it turns more to the east, and increasing in elevation, constitutes the celebrated *White Mountains*, the most elevated part of the Appalachian chain. These mountains are situated near the eastern border of the State, about 70 miles from the coast, and are much visited by travellers, for the grandeur and wildness of their scenery. The most striking spots are *Mount Washington*, 6234 feet high, terminating in a pinnacle composed of huge rocks of granite and gneiss, and the *Notch*, a narrow defile, two miles in length, with lofty steep cliffs on each side. There are several other summits in the White Mountains, which exceed 5000 and 4000 feet in height.

Connecticut River, which separates New Hampshire from Vermont, takes its rise in the Highlands, on the northern border of this State, and, after a course of 170 miles, enters Massachusetts, and passes through that State and Connecticut to the sea. The *Merrimack* has two branches; the northern and longer of which rises in the White Mountains, near the Notch, and is called the *Pemigewasset*. The eastern branch is called the *Winnipiseogee*. They unite to form the Merrimack, 78 miles above Chelmsford, at which place the river enters Massachusetts, and thence finds its way to the ocean, after a course of 200 miles. It has a boat navigation of about 40 miles in this State to Concord. The *Piscataqua*, *Saco*, and *Androscoggin*, have their sources in New Hampshire.

The largest lake in the State is *Winnipiseogee*. It is nearly central in situation, is 23 miles long, and its greatest width is 10 miles. It contains numerous islands, and presents very picturesque scenery; it is 472 feet above the level of the sea, and its outlet forms the eastern branch of the Merrimack. *Squam* lake, to the north of the preceding, is 6 miles long by three broad. *Sunapee* lake, to the south-west, is 9 miles long by $1\frac{1}{2}$ broad. There are a few others of smaller extent.

The land on the banks of the rivers and on the sides of the hills is

the best in the State; the valleys between them being often cold and poor. The country, for about 20 miles from the coast, is nearly level, but further north it becomes rugged and mountainous. The forest trees here attain great size, indicating the fertility of the virgin soil, which is well suited to grain, grass, flax, and the fruits of a northern climate. The State is rich in minerals. Iron, copper, galena, plumbago, are found in different parts of the State, as are also steatite, limestone, jasper, manganese, beryls, garnets, and amethysts.

The winters are milder here than in Maine, though on the highest mountains the snow may lie somewhat longer. The number of fair days compared with the cloudy are as three to one. The climate is thought to be particularly favourable to health and longevity.

New Hampshire contains 8 counties, and 220 towns. The population, in 1830 was 269,328, and the increase in ten years somewhat more than 10 per cent. The State having only a small extent of sea coast, and but a single harbour, its inhabitants are generally farmers and graziers. Much of the produce of their lands and dairies is carried to the ports of Maine or Massachusetts, and thus does not appear in the official returns of the exports from the State. They have from 60 to 70 vessels employed in the fisheries. Manufactures are carried on with spirit and success in many of the towns, particularly at Somersworth and Dover. They are chiefly of cotton fabrics, broad-cloths, and carpets. There are 18 banks in the State, whose capitals amount to 1,791,670 dollars.

Portsmouth is the largest town in the State, and the only seaport. It is in a peninsula, at the mouth of the Piscataqua river, has an excellent harbour, which is well defended; and is, in general, well built. It contains 8,082 inhabitants. On an island in the harbour the general government has a navy yard. *Dover*, the next largest town, is 10 miles north-west of Portsmouth, and has a population of 5,449. *Concord*, on the Merrimack, is the seat of government, and contains 3,727 inhabitants. There are a few other towns containing from 2,000 to 3,000 inhabitants.

Dartmouth college, at Hanover, is a well-endowed institution. It has 10 professors and tutors, about 200 students, and libraries containing 14,000 volumes. There are several incorporated academies, and the common schools, amounting to upwards of 1,500, are supported by an annual tax of 90,000 dollars. The Congregationalists are the most numerous sect in the State, and, next to them, the Baptists and the Methodists.

The legislature consists of a senate of 12 members, and a house of representatives of 234. The ordinary revenue is about 80,000 dollars. New Hampshire was alternately a separate province, or attached either to Massachusetts alone, or to that State with New York until 1741, when it became permanently separate.

THE NEW ENGLAND STATES.—III. VERMONT

Is bounded on the *east* by the Connecticut, which separates it from New Hampshire; 150 miles: on the *north* by Lower Canada, 90 miles: on the *west* by New York; from which it is separated by Lake Champlain, 104 miles, and by Poultney river, about 10 miles, and by a meridional line, 54 miles: on the *south*, by Massachusetts, 40 miles. It contains 10,212 square miles.

The *Green Mountains*, which suggested the name of Vermont, traverse the whole State from south to north. The range begins in Connecticut, crosses Massachusetts, and, running into this State as far as the 44th parallel, divides into two branches; one, continuing in the same direction, terminates near the northern boundary of the State; the other, by a north-easterly course, passes into New Hampshire and Maine, and forms the north-western boundary of those States. These mountains are from 10 to 15 miles wide. The western range contains the highest summits, which, however, do not exceed 3,500 feet, and is also the most intersected by streams, for the north-eastern range divides the waters of the Connecticut from those of Lake Champlain and the Hudson. The sides of the mountains are covered with pine, spruce, and other evergreens, and their rocky summits with a spongy green moss, to which circumstances they, no doubt, owe their name.

Except the *Connecticut*, which is common to this State and New Hampshire, all the streams of Vermont are small. They all take their rise in the Green Mountains, and flow either to the east into the Connecticut, or to the west, principally into Lake Champlain. This lake, which extends 24 miles into Canada, is 140 miles long, and from less than a mile to 12 miles broad. Its waters always rise in the spring, by the melting of the mountain snow, from 4 to 8 feet, and in the winter they are always frozen over. They find a vent, through the Sorel river, into the St. Lawrence. The lake contains 60 islands, of which the most considerable are *North Hero*, *South Hero*, and *La Motte*. Lake *Memphremagog* lies partly in this State, and partly in Canada. It is 35 miles long by 3 broad, and it receives some small streams in the north-east part of the State.

The soil is in general very good, especially on the margins of the streams. The mountain sides, which are too steep for cultivation, afford excellent pasturage for cattle and sheep. Wheat is grown chiefly on the west side of the mountains, but maize everywhere. The greater part of the State, however, must be regarded as better adapted to grazing than tillage. The minerals are iron, lead, zinc, copper, and manganese. Sulphate of iron is so abundant as to have occasioned the manufacture of copperas to a large extent. Marble of various kinds and

colours, oilstone, and almost every variety of primitive and transition rock are also found in the State.

The climate is nearly the same as that of New Hampshire, both as to temperature and health, with two exceptions: the part bordering on Lake Champlain is sometimes visited by the diseases of marshy countries; and the western portion of the State is exempt from the chilling effects of the easterly winds, from which the Green Mountains serve as a screen.

Vermont is divided into 13 counties, and 245 townships, or, as they are called in the eastern States, towns. It has 280,652 inhabitants, who have increased 19 per cent. in 10 years. Their chief pursuit is agriculture; and they have, of late years, greatly increased the number of their sheep, with a view to manufactures. The manufactures are principally household, but there are more than 100 manufactories of woollen, cotton-goods, paper, and linseed-oil. Almost every family makes its own maple sugar; and the whole quantity annually made is estimated at 6,000,000 lbs. Potash, pearlash, and iron, are manufactured in many parts of the State; and there are two large manufactories of copper. The commerce of the State, which is chiefly domestic, is carried on either with Albany, by the Champlain canal, or with Hartford by the Connecticut river. The only foreign trade is with Canada, and chiefly with Montreal. It has 10 banks, and its banking capital is about half a million of dollars.

The State contains no large town. *Montpelier*, the capital, is situated near the centre of the State on Onion river, which thence finds a passage through the Green Mountains into Lake Champlain. Its population is 1,792. *Windsor*, on the Connecticut, at the foot of Mount Ascutney, a solitary peak, 3,320 feet high; population, 3,134. *Woodstock*, 11 miles north-west of Windsor; population about 3,000. *Brattleborough*, on the Connecticut, 50 miles below Windsor; population 2,141. *Burlington*, on Lake Champlain, the largest and most commercial town on the lake; population 3,526. *Middlebury*, on Otter Creek, 20 miles from the lake, a thriving manufacturing town, with 3,468 inhabitants. *Bennington*, near the south-west corner of the State; population 3,419.

There are two colleges in this State: *Vermont University*, at Burlington, which has a president and 6 professors, and is endowed with 30,000 acres of land; and *Middlebury College*, which has a president, 5 professors, and 2 tutors, and is the more prosperous of the two. Every town in the State is compelled by law to support public schools. The religious sects of Vermont are nearly the same as those of New Hampshire.

The legislature of this State has but a single branch, which consists of 233 members. The annual revenue is about 70,000 dollars. Before the revolution Vermont was claimed both by New Hampshire and New

York. The dispute was not finally settled until after the war of the Revolution, when it became an independent State. It was admitted into the Union in 1791.

THE NEW ENGLAND STATES.—IV. MASSACHUSETTS

Is bounded *on the north-west* by New Hampshire, about 30 miles: *on the north* by the same State 60 miles, and by Vermont 40 miles: *on the west* by New York, 50 miles: *on the south* by Connecticut, 88 miles, and by Rhode Island, 18 miles: *on the south-west* by an irregular line which separates the State from Rhode Island, 70 miles: *on the east*, by the Atlantic Ocean, where the State has a breadth of 95 miles. It has an area of 8,750 square miles.

The coast of Massachusetts has a more broken outline than that of any other State. From its north-eastern limit, its general direction is, south-east to Cape Ann, 18 miles; then south-west to Boston Harbour, 25 miles; thence south-east to the peninsula of Cape Cod, 50 miles; crossing the isthmus of the peninsula the coast again has a south-west direction for 35 miles. The coast of that peninsula, on its north side, stretches to the east 20 miles; it then turns at right angles to the north, about the same distance, and terminates in Cape Cod. On the south side of the isthmus, it first stretches to the south 20 miles, and then to the north-east, to the outward corner of the elbow, 35 miles. From this point to Cape Cod is 30 miles. Thus in a direct breadth of 95 miles, the line of coast, exclusive of this crooked peninsula, is 125 miles, and with that, is upwards of 250. Of the numerous harbours contained in this length of sea coast, the principal are *Newbury port*, at the mouth of the Merrimack; *Cape Ann*, near the cape of that name; *Marblehead*, *Boston Harbour*, and *Plymouth*, all in *Massachusetts Bay*; and *New Bedford* in *Buzzard's Bay*. Besides the islands of *Nantucket* and *Martha's Vineyard*, which have been mentioned, this State possesses the *Elizabeth Islands*, 16 in number, which lie on the south-east side of *Buzzard's Bay*; *Plum Island*, at the mouth of the Merrimack; and several small islands in *Boston Bay*.

The Green Mountain range traverses the western part of this State, separating, however, into two distinct and nearly parallel ridges. Of these the *Hoosac* is the eastern, and the *Taghannuc* the western and the higher: the *Saddle Mountain*, its loftiest peak, has an elevation of 4,000 feet. A low range enters the State east of the Connecticut River, and seems to be a continuation of the White Mountains of New Hampshire. This range is divided by the Connecticut, below Northampton, into two ridges, the two highest peaks of which are *Mount Tom*, on the west of the river, and *Mount Holyoke* on the east. There are some detached mountains to the eastward of this range, one of which, *Wachusett*, is between 2000 and 3000 feet above the level of the sea. Both this and *Mount Holyoke* attract many visitors by their beautiful prospects.

The *Connecticut* crosses the State in a southerly course, about 25 miles east of the Hoosac Mountains. The *Hoosatic* rises in the north-east corner of the State, and flows in like manner to the south, through Connecticut to the sea. The *Merrimack*, having crossed the northern boundary of this State from New Hampshire, soon turns to the north-east, and, after a very irregular course of about 50 miles, falls into the Atlantic at Newbury Port. The other streams of the State are inconsiderable.

The soil is poor and sandy near the coast; but in the middle and western parts of the State it is very fertile, and equally fitted for tillage and grazing. Salt marshes are frequent along every part of the coast. The only mines that are wrought are those of iron; but quarries of granite, sienite, white marble, and slate, are wrought extensively. Alum is manufactured on Martha's Vineyard. Copper, anthracite coal, yellow ochre, serpentine and asbestos, are also found.

The climate of Massachusetts is somewhat milder than that of the two last-mentioned states, not merely because it is further south, but also because it has less elevation, and is more influenced by the higher temperature of the ocean. But all the rivers are commonly frozen over for two or three months in the year, and, in hard winters, even the harbours on the coast are for a week or two closed by ice.

There are 14 counties in the State, 8 on the coast and 6 inland, comprising 305 towns. The population in 1830 was 610,408, and the increase in 10 years, 16½ per cent. The people of this State excel in all the three great pursuits of agriculture, commerce, and manufactures.—In no State is there neater cultivation, better systems of husbandry, or more attention paid to the breeds of cattle. But commerce and navigation are the favourite occupations of the people. •Massachusetts has a greater amount of tonnage than any State in the union, and more foreign trade than any except New York. It has 1000 vessels employed in the cod and mackerel fishery, and 160 whale ships. The produce of its fisheries in 1829 exceeded 4,000,000 dollars. The State is second only to Pennsylvania in manufactures. Those which it carries on most extensively and successfully are woollen and cotton fabrics generally; carpets, calicos, satinets, flannels, glass, paper, lace, salt, and various articles of iron, brass, copper, leather, &c. There are 250 incorporated manufacturing companies in the State.

There are 117 banks in this State, the capitals of which amount to 34,000,000 dollars. The canals are 70 miles in length. The most important are the *Middlesex canal*, connecting the Merrimack with Boston, and opening a communication with all the interior of New Hampshire: length 27 miles. The *Blackstone canal*, from Worcester to Providence in Rhode Island; length 44 miles, of which 16 miles are in Rhode Island. The *Quincy railroad*, constructed for the conveyance of granite to the water, and 3 miles long, was the first road of this description in the United States. The *Boston and Lowell railroad* is 25

miles long. The *Boston and Providence railroad* is 42 miles long. The *Boston and Worcester railroad* is 43 miles long. The *Western railroad* extends from Worcester, through Springfield and West Stockbridge to the New York line, 118 miles. It is now in progress.

Boston, the capital, is by far the largest town in New England. It is situated on a hilly peninsula in the north-west corner of Massachusetts Bay; it is very irregular in plan, but in the western and central portion it is well built. The granite found in the neighbourhood has been much used of late, and has greatly improved the architecture of the city, both as to appearance and solidity. It has many respectable public buildings, but no one in point of form, extent, or materials, is equal to the New Market, which is built altogether of the Quincy granite, is 536 feet in length, has a beautiful portico at each end, and a dome in the centre. But the pride of the city is the *Mall*, or common, a piece of open ground on the south slope of Beacon Hill, containing 44 acres: it is bounded by the State-house, or by handsome private buildings on every side but one, and is planted with well-grown elms. This square is frequented not only for its intrinsic beauty, and its fine promenade, but also for the commanding and diversified prospect it affords towards the west. The State-house contains a statue of Washington by Chantrey. The city has eight means of approach; Roxbury neck, the western causeway, and six bridges, one of which is upwards of 1100 yards long. The number of stage-coaches, arriving or departing in a day, is estimated at 250. The public libraries contain 75,000 volumes. The wharfs of Boston are remarkable both for their convenience and length: among them is one of 1630 feet, and another of 1240. The population in 1830 was 61,392.

The other towns are *Cambridge*, the seat of Harvard University, 3 miles west of Boston. Population 6071. *Salem*, 14 miles north of Boston, on a peninsula in Marblehead Harbour, celebrated for its wealth and commerce, especially its East India trade. Population 13,836. *Newbury Port*, a town of great beauty at the mouth of the Merrimack. Population 6388. *Lynn*, between Boston and Salem, famous for its extensive manufacture of shoes. *New Bedford*, on Buzzard's Bay, largely engaged in the whale fishery, and in the manufacture of spermaceti candles and of salt. Population 7,592. *Springfield*, on the Connecticut, where the United States have an Armoury. Population 6784. *Lowell*, on the Merrimack, a manufacturing town of sudden growth. Population 6,474, but rapidly increasing. From 12 to 14 millions of yards of cotton cloth are annually made here. *Gloucester*, on the south side of Cape Ann, engaged in the fisheries. Population 7,518. *Plymouth*, the first European settlement in the colony. Population 4,751. *Charleston*, the seat of one of the Navy Yards of the General Government. Population 8783. *Worcester*, near the centre of the State. Population 4,172. *Pittsfield*, a manufacturing town near the western limit.

Population 3,570. *Northampton*, at the foot of Mount Holyoke, a beautiful village. Population 3,613.

Harvard College, or Cambridge University, is the best endowed place of instruction in the Union. It is provided with an extensive apparatus, a cabinet of minerals, a chemical laboratory, an anatomical museum, a botanical garden, and a library of 35,000 vols. It has a president and upwards of 30 professors and tutors. *Williams College*, at Williams-town, has a president and seven instructors. *Amherst College* has a president and 8 instructors. The *Theological Seminary* at Andover is richly endowed. It has a president and 4 professors; with a library of 11,000 volumes. The *Newton Theological Seminary* has 3 professors. Common schools are established by law in this State, as in the rest of New England; there are also upwards of 60 incorporated academics, besides many others equally respectable which are not incorporated. The Congregationalists are the most numerous sect, and next to them are the Unitarians; the latter, indeed, have the ascendancy in Boston. The other leading sects are Baptists, Methodists, Universalists, and Episcopalians.

The Legislature consists of a Senate and House of Representatives. The senate is chosen by the *counties*, and the number chosen by each county depends upon its quota of tax. The other House is chosen by the towns, according to their population. In 1839 there were 40 senators and 508 representatives. The ordinary revenue of the state is 450,000 dollars.

Massachusetts was settled by the Puritans at Plymouth in 1620. Salem was founded in 1627, and Boston in 1630. The present constitution was formed in 1780: it underwent a revision, but with little alteration, in 1830.

THE NEW ENGLAND STATES.—V. RHODE ISLAND

Is bounded *on the east* and north-east by an irregular line which separates it from Massachusetts, 50 miles: *on the north*, by the parallel of $42^{\circ} 2' N.$ lat., which separates it from the same State, 18 miles; *on the west*, by a conventional line, to the Pawcatuck river, 38 miles, and thence by that river to the ocean, 12 miles, by which river and line it is separated from Connecticut; *on the south*, by the Atlantic, 40 miles. The area of this State, which is the smallest in the Union, is 1225 square miles, including the waters of Narraganset Bay, which are about 130 square miles.

Narraganset Bay lies almost wholly in this State; but one of its arms, *Providence Bay*, and a small portion of another, *Mount Hope Bay*, separate the State from Massachusetts. The entrance is between *Point Judith*, on the west, and *Point Seaconnet*, on the east, a distance of 15 miles. It extends northward into the State nearly 30 miles, and branches at its head into three other bays; *Mount Hope Bay*, on the east side, *Providence Bay*, on the north, and *Greenwich Bay*, on the

west. It has been considered the best naval station north of the Chesapeake. Among its several excellent harbours that of Newport stands pre-eminent, being at once safe, deep, capacious, and of easy access from the ocean. This bay contains 15 islands, the principal of which are: 1. *Rhode Island*, lying at the north of the bay, on the east side, 15 miles long and 4 wide; 2. *Conanicut*, near it, on the west side, 8 miles long by 1 mile broad. These two islands form the two sides of Newport harbour. 3. *Prudence Island*, further up the bay, in a direction between the other two, 8 miles long and 1 broad. Besides these, *Block Island*, lying out at sea 10 miles south of Point Judith, belongs to the State: it is 8 miles long and 4 broad.

The river *Pawcatuck*, which is common to this State and Connecticut in the lower part of its course, is navigable about 6 miles. *Providence River* is formed of two small streams from the north-west. It empties into a narrow arm of the bay, which, for some distance, bears the same name. The *Pawtucket* crosses the north-east corner of the State and enters Providence River, a mile below the town of that name. The *Pawtuxet* falls into the same river, from the west, five miles below Providence. Both these streams, by a succession of falls, afford numerous sites for mills and manufactories.

The northern and western parts of the State are hilly, and the rest either level or undulating. The soil is pretty good, and there is little which is either poor and sandy, or very fertile. It is admirably suited to grazing. The only minerals are iron, limestone, marble, and anthracite coal: none which are of great value. The climate of the State generally is very good, and that of Newport, near the entrance of Narraganset Bay, is milder in the winter and cooler in the summer than any other part of New England. This town has long been a place of fashionable resort in the hot season.

Rhode Island contains 5 counties and 31 towns. The population in 1830 was 97,199, and the increase, in ten years, was 17 per cent. The agricultural population are engaged chiefly in rearing cattle and sheep, and in making butter and cheese. The State has an average share of foreign commerce, its shipping amounting to 40,607 tons. Manufactures are, however, the principal object of pursuit. The chief seats of these are Pawtucket, Providence, and the Woonsocket Falls. The most remarkable feature in the internal policy of this State is the number of its banks. In 1838 it had 62, whose capitals amounted to more than 9,000,000 dollars. Two States alone exceed it in the number of banks, and only seven in the amount of bank capital.

Providence, the second town in New England for population and wealth, is situated on both sides of Providence River, which are connected by a bridge. The west side is the principal seat of business; the hill on the east side is appropriated to private residences. It is 35 miles from the sea, but is accessible to the largest merchant-ships. It

contains many handsome buildings, both public and private, and a population of 16,832. *Newport*, on the west side of Rhode Island, is five miles from the mouth of Narraganset Bay. Most of its former commerce has been diverted to Providence or New York, and it has now become a manufacturing town. Population 8010. *Bristol*, on the west side of Mount Hope Bay, has an active foreign trade. Population 3054. *Pawtucket*, four miles north-east of Providence, is the seat of numerous manufactures, principally of cotton. A part of it lies in Massachusetts. Population 4961. *Warwick*, a manufacturing and commercial town. 10 miles south of Providence. Population 5529.

Brown University is in Providence. It has a president and eight professors, and its libraries contain 12,000 volumes. It is under the government of *Baptists*, who are the most numerous sect in the State. Next to them are the *Congregationalists*, *Methodists*, and *Episcopalians*. Elementary education is liberally provided for by the laws.

This State has no other constitution than its original charter, granted by Charles II. in 1663, yet it is quite as democratic as any other State. The senate has 10 members, including the governor and lieutenant-governor. The House of Representatives consists of 72 members. The legislature sits at least twice, and most frequently four times a-year, at four different places. All the public functionaries are appointed annually, and most of them by the people, but the judges are appointed by the legislature.

THE NEW ENGLAND STATES.—VI. CONNECTICUT

Is bounded *on the east* by Rhode Island, from which it is separated by the Pawtucket, for 12 miles from its mouth, and thence by a conventional line running nearly north, 38 miles; *on the north* by the parallel* of $42^{\circ} 2'$, which separates it from Massachusetts, 65 miles; *on the west* by a conventional line, running zigzag at its southern extremity, which separates it from New York, about 70 miles in a right line; and *on the south*, by the strait called *Long Island Sound*, making a line of coast of 100 miles, exclusive of indentations. The area is 4664 square miles.

There are five distinct ranges of mountains in this State; but none of them have any great elevation. 1. The *Lyme* range, on the east side of the Connecticut River, which separates the waters of that river from those of the Thames, and, running to the south, divides into two branches. Its loftiest summit is Bald Mountain. 2. The *Middletown Mountain*, on the west of the Connecticut, which runs south from Hartford to New Haven, has only a moderate elevation, and is not continuous. 3. The *Green Mountain* range, which traverses the State in a southerly direction, and divides into two branches, one of which terminates at East Rock, and the other at West Rock near New Haven. 4. The *Greenwoods* range, on the east of the Housatonic River, of mo-

* This line is indented by a small projecting parallelogram of Massachusetts.

ate elevation. This is sometimes considered a branch of, 5, The *glhkanic*, or *Housatonic* Mountains, which run along the western margin of the State, to the west of the Housatonic River, and terminate at Ridgefield, 14 miles from the Sound. This range is not continuous, but some of its detached mountains are higher than any other in the State. *Mount Tom*, near Lichfield, is 700 feet high.

The *Connecticut* flows through the middle of this State in a southerly course of about 35 miles, and then, taking a south-eastern direction, flows into the Sound, between Saybrook and Lyme. It admits of sloop navigation to Hartford, 50 miles. The *Housatonic* enters this State near the north-west corner, after which it takes a southerly, then a south-east, and lastly a south course to the Sound. It has a sloop navigation of 2 miles to Derby. The *Thames* is formed of two branches, which, flowing from the north and north-west, unite at Norwich: it thence flows south to the Sound for 17 miles, and is navigable for ships.

The soil of this State is of a medium quality generally, but in some of the valleys it is very fertile. Iron, copper, lead, cobalt, plumbago, are found in the State. Marble and freestone quarries are numerous. It also contains porcelain clay, and coal. The Green Mountain Range, which is principally greenstone, is thought to be rich in minerals. The climate is nearly the same as that of Massachusetts.

Connecticut is divided into eight counties,—four on the Sound and four on the Massachusetts line. The number of townships is 120, and of inhabitants, 297,675: the increase in ten years little exceeded eight per cent. The husbandry of the State is very good. All the ordinary species of grain, roots, and fruits, are cultivated with great success; and the State abounds in fine meadows. A large proportion of the farms are fenced with stone walls. The commerce of the State is not great, and is confined chiefly to the West Indies and the coasting trade. Manufactures are carried on with great spirit in many parts of the State, and furnish the most copious source of their traffic, both foreign and domestic. The Connecticut pedlars traverse more than half the States of the Union. The banks, in 1838, were 34 in number, and their capitals amounted to more than 8,000,000 dollars. The *Enfield Canal*, around the Falls of the Connecticut, 5½ miles long, is the only canal in the State yet completed. The *Farmington Canal*, which connects Northampton in Massachusetts with New Haven, is 78 miles long. The northern part between Suffield and Northampton, 22 miles long, is yet to be cut.

Hartford is pleasantly situated on the west side of the Connecticut, near the centre of the State, and at the head of sloop navigation. The legislature meets alternately at this town and New Haven. Population 9789. *New Haven* is at the bottom of a bay, opening to the Sound. It has an active commerce, and derives additional importance from being the seat of the legislature every other year, and also of Yale

College. It is very regular, is well built, and contains a handsome square, planted with trees, and faced by public buildings. Population 10,678. *New London*, near the mouth of the Thames, has a good harbour. Much of its shipping is employed in the whale fishery. Population 4356. *Norwich*, 14 miles higher on the Thames, is a thriving manufacturing town. Population 5169. *Middletown*, on the Connecticut, 15 miles below Hartford, has numerous manufactures of cotton, woollen, arms, &c. Population 6876. There are several other towns in the State, which are supported by some particular manufacture.

There are two colleges in Connecticut. *Yale College*, at New Haven, the elder of the two, has a president with fourteen professors and tutors, a large collection of minerals, and libraries containing 17,500 volumes. There is both a law and medical school connected with the college. The number of students at Yale is commonly greater than at any other college in the Union. *Washington College*, at Hartford, was founded in 1826, and is under the direction of Episcopalians. It has nine instructors, and 5000 volumes. In the same place is the asylum for the deaf and dumb, which was liberally endowed by Congress with public lands, and is probably the best conducted institution of the kind in the United States. This state possesses more ample funds for the education of the people than any other.* The school fund raised from the proceeds of its public lands and land claims, amounts to about two millions of dollars, and the whole income which it yields is appropriated to the support of elementary schools. The Congregationalists in this State greatly exceed all the other sects together. Next to them are the Baptists, Episcopalians, and Methodists.

The legislature consists of a senate of 21 members, over whom the lieutenant-governor presides. The House of Representatives has 206 members. The ordinary revenue, exclusive of the school fund, is about 70,000 dollars. The present constitution was adopted in 1818, until which time the State was governed under the colonial charter of Charles II. granted in 1662. Before the date of this charter it constituted a part of Massachusetts.

THE MIDDLE STATES.—I. NEW YORK

Is bounded *on the south-east* by Long Island Sound, 30 miles; *on the east* by conventional lines which separate it from Connecticut, 80

* That of New York alone may now somewhat exceed it. The capital of the Connecticut School Fund amounts to 2,028,531.20 dollars, and the dividends for the year ending the 1st day of April, 1839, were a little over 104,900 dollars. This amount is distributed to the several school societies, and through them to the school districts, according to the number of persons between the ages of four and sixteen, and must be applied to the payment of the wages and board of instructors. (*Connecticut Common School Journal*, No. 13, 1839, which contains further information on the Common Schools in Connecticut.)

miles ; from Massachussetts, 50 miles, and from Vermont, including 10 miles by Poultney River, 64 miles to Whitehall, on Lake Champlain ; thence, by that lake to the 45th parallel, 136 miles : *on the north* by that parallel which separates it from Upper Canada, 70 miles ; *on the north-west* by the St. Lawrence, Lake Ontario, Niagara River, and Lake Erie, about 400 miles : *on the west* by a meridional line from Lake Erie, 18 miles ; *on the south* by the 42d parallel to the Delaware, 230 miles : *on the south-west* by that river, 58 miles (which three last lines separate this State from Pennsylvania), and by a right line from the Delaware to the Hudson, 46 miles : *on the west* again, by the Hudson, 25 miles ; which two last lines separate the State from New Jérsey. It extends 304 miles from north to south, and 340 miles from east to west. The area, however, from its triangular form, does not, with the islands, exceed 46,085 square miles.

Though the continental part of this State touches the Atlantic through extent of only 30 miles, it has, on the southern shores of Long Island, a sea coast of 130 miles. This side of the island is, in general, a low sandy beach, with occasional inlets, which afford no good harbours. The Bay of New York, however, formed by Long Island on the east, and by New Jersey and Staten Island on the west, makes ample amends for the deficiency. This noble bay is 8 miles long, and from $1\frac{1}{2}$ mile to 5 miles broad. It is approached on the south from the ocean, by the *Narrows*, the strait formed by the approach of the two islands : on the east, by an arm of Long Island Sound, called the East River : on the north, by the Hudson, from the interior ; and on the west, by the Kills, from Newark Bay, in New Jersey. The tide rises about six feet ; but at low water any vessel smaller than a ship of the line may enter the Narrows without difficulty. From its nearness to the ocean, it is very rarely blocked up by ice, and, on the whole, combines advantages possessed by no other harbour in the Union.

Long Island, by far the largest island on the American coast, is 120 miles long from the Narrows to Montauk Point, and 20 miles broad in the widest part : the area is 1235 square miles. A rocky ridge, generally from 200 to 300 feet high, traverses it from west to east. The south side is level, sandy, and of tertiary formation. On the north side the surface is uneven, abounding with stones and primitive rocks. It terminates to the east in two points, Montauk on the south, and Oyster Pond on the north, between which points is a deep inlet, containing several islands, and forming a series of bays. Of these Gardiner's Bay affords the best harbour. Of the islands in this inlet the principal are, *Gardiner's Island*, containing 2500 acres, and famous for its cheese ; and *Shelter Island*, further west, containing 8000 acres. *Plum Island*, 3 miles long, and 1 wide, lies to the east of Oyster Pond Point. *Fisher's Island*, still further east, is 12 miles long, by 1 wide. *Staten Island*, on the south-west of New York Bay, is 13 miles long, and 5 broad.

On the east side of the island, next the harbour, is the quarantine ground; and between the south side and the New Jersey shore is the Bay of Amboy. *Manhattan*, or New York Island, 15 miles long and 2 miles wide, lies at the junction of Long Island Sound and the Hudson; but as the creek which runs from the river to the Sound, by which it was once insulated, is now crossed by a spacious stone bridge, *Manhattan* has almost ceased to be regarded as an island. In the harbour of New York are several small islands, which have been surrendered to the general government as sites for fortifications.

The only mountains in this State are either the great Appalachian chain, or ranges that may be considered branches of it. This chain runs to the north-east about 50 miles above the City of New York, where the Hudson finds a passage through it, and where it is called the Highlands. It then turns to the north, and passing into the States of Connecticut, Massachusetts, and Vermont, becomes the Housatonic, Taghannuc and Green Mountains of those States. The chain is about 16 miles broad at the Highlands. From this point, a range called the *Catskill Mountains*, branches off to the north, and after deflecting to the west, again takes a northerly direction, to the St. Lawrence. Its general height, near the Hudson, is about 3000 feet, but particular peaks are much higher. *Roundtop* mountain has an elevation of 3804 feet. These mountains are much visited in summer, both for their sublime and picturesque scenery, and for the delightful temperature of the climate. But the most rugged and mountainous part of New York is the elevated portion of that great triangular district which lies between the Mohawk, the St. Lawrence, and the western border of Lake Champlain. This mountain region is still very imperfectly known. It contains the sources of the Hudson, and of all the principal rivers in the northern part of the state. The high peak of Essex near the source of the Hudson, is 5467 feet high; Mount M'Intyre is 5183 feet; and several other summits probably attain 5000 feet. The source of the main branch of the Hudson is 4747 feet above the sea. *Avalanche Lake*, the source of one of the branches of the Hudson, is about 3000 feet above the tide water, and is undoubtedly the highest lake in the United States, east of the Rocky Mountains. This region presents a striking phenomenon in the course of the *Au Sable*, a branch of which rises in the same spot as the main branch of the Hudson, and reaches Lake Champlain by a course of about 40 miles, in which short distance it descends above 4600 feet, producing waterfalls of the most magnificent description.*

The *Hudson* has been already mentioned among the principal Atlantic rivers. From its mouth to the town of Hudson, 120 miles, it is naviga-

* Communication to Silliman's American Journal, No. 2, Vol. xxxiii. by W. C. Redfield, which contains further particulars about this mountain district, so interesting both in a geographical and geological point of view.

for the largest merchant-ships; and to Troy, 36 miles higher, for exports. Above Troy it is navigable for boats. The *Mohawk* rises near Oneida Lake, and, running in a general east course for 130 miles, crosses the Hudson, almost at right angles, 10 miles above Albany. The *Seneca* rises in the western part of Pennsylvania, and, flowing in a northerly direction, crosses New York, and falls into Lake Ontario. Its course in this State is 125 miles. Five miles from its mouth it has a fall of 96 feet at Rochester, but it has a boat navigation 70 miles above that point. *Black River* rises in the Highlands, north of the Mohawk, and, flowing to the north-west 120 miles, falls into the east end of Lake Ontario. The *St. Lawrence* is common to this State and Canada for about 100 miles. The *Susquehanna*, as already mentioned, rises in this State, and affords a conveyance for a part of its produce to the Chesapeake.

Lakes.—Besides Lake Champlain which borders this State on the east, and Lakes Ontario and Erie, which make part of its northern and western boundary, New York has numerous lakes in the interior; far more indeed than any other State, except Louisiana. *Lake George*, between Lake Champlain and the Hudson, is 33 miles long from north to south, and from 1 mile to 7 broad. Its numerous small islands, grouped in great variety; the broken range of mountains on each side, sloping, and often wooded to the margin of the lake; the waters, clear as crystal—concur to make this one of the most beautiful scenes of water in the world. *Otsego Lake*, 66 miles west of Albany, 9 miles in length. The *Susquehanna* has its source from this lake. *Oneida Lake*, lying nearly east and west, is 20 miles long, and 4 broad. Its waters find a vent by Oneida River into the Ontario, at its south-east corner, after they have united with the Seneca, and formed the Oswego River. To the south-east lies *Onondago* or *Salt Lake*, which contains in its borders the most copious and the strongest salt springs in the Union. It is 6 miles long. *Skeneatles*, 15 miles long, and $1\frac{1}{2}$ wide. *Cayuga*, 11 miles long, and nearly 2 wide. *Cayuga*, 38 miles long, and from 1 to 4 in width; its shores are often precipitous, broken, and greatly indented. It is navigated by steam-boats, and is crossed by a bridge more than a mile in length. *Seneca*, 35 miles long, and from 2 to 4 wide; its surface is 431 feet above the Hudson, at Albany: at the north end of this lake stands the pretty and flourishing village of Geneva. *Crooked Lake*, 18 miles long, and at its greatest width $1\frac{1}{4}$ mile, divides into two arms which extend northward 12 and 8 miles respectively. *Catanaraugus*, 14 miles long, and 1 mile broad. All the seven last-mentioned lakes lie nearly north and south; all discharge their waters to the northern extremity; and each of these outlets successively falls into the same stream, which in the latter part of its course is called the Seneca River: the redundant waters of all of them, as well as of Oneida Lake, find their way to the Ontario by the same channel.

This channel, called the Oswego River, is 24 miles in length. In the western extremity of the State, and south of Lake Erie, is *Chatauque Lake*, 16 miles long, and from 1 to 4 broad. There are, also, several lakes in the northern part of the State, particularly *Long Lake*, in Hamilton County; *Black Lake*, near the St. Lawrence, and a succession of smaller lakes near the Genesee River. These waters, in every part of the State, abound in fish, and, for the most part, the lands on their borders are very fertile. No State contains so many remarkable cataraacts and water-falls. Besides those of Niagara, which it shares with Canada, there are the *Trenton Falls*, 14 miles north of *Utica*, on a branch of the Mohawk, consisting of a succession of beautiful cascades and bold cataracts; *Glens Falls*, on the Hudson, between Saratoga and Lake George; the Genesee Falls at Rochester, one of which is 97 feet high; and the *Cohoes* on the Mohawk, one mile from Waterford, which has a fall of 40 feet, the whole breadth of the river; besides others of inferior magnitude.

The soil of this State has great variety. The eastern part of Long Island is sandy and poor. In the western part of the island and the southern part of the State, which are in the primitive zone, the soil is better, but is everywhere diversified by very rich and very barren spots. There is much good land, suited either to grain or grazing, in the region between Lake Champlain and Ontario. The country to the west of the great mountain ranges which have been mentioned, being in the zone of secondary rocks, partakes of the fertility which belongs to that formation: and the flat country south of Lake Ontario, commonly known as "the Lake country," contains larger bodies of good land than any other part of the State; when not too wet, it is particularly favourable to wheat.

New York is rich in all the most useful minerals, except coal, which has not yet been found in such situations and abundance as to be worked. Iron, salt, limestone, and marble are abundant. Tin, lead, zinc, antimony, arsenic, plumbago, alum, calcareous and schistous spar, gypsum, asbestos, serpentine, garnets, flints, and many other mineral productions have all been found in different parts of the State, and some of them in large quantities. The mineral springs at Saratoga and Balston have acquired great celebrity, and are visited for health or pleasure in the summer by persons from every part of the Union. Balston is 30 miles north-west of Albany, and Saratoga 6 miles further. These places are now connected by a rail-road; and the number of visitors in a season is supposed not to fall short of 20,000. The *New Lebanon* springs, which are efficacious in scrofulous diseases, and are further recommended by the cool temperature of the climate, and the scenery of the surrounding country, are next in reputation. There is a settlement of *Shakers* in the neighbourhood.

The climate of this State varies materially as to temperature, according to the elevation of the different parts, and their distance from the

mean; so that while the southern part of the State has a climate not perceptibly different from the eastern part of Pennsylvania, the northern portion experiences the rigours of a Canadian winter. In the Genesee country, as the land descends to the north and west, the winters become colder than in the region east of it. This country is, however, less healthy than most parts of the State, and in the neighbourhood of all the lakes, especially those in the interior, the malaria more or less prevails in autumn.

The State is divided into 56 counties, containing 9 cities, which are New York, Albany, Troy, Hudson, Schenectady, Utica, Buffalo, Rochester, and Brooklyn, and 124 incorporated *villages*,* many of which contain from 3000 to 5000 inhabitants. The population in 1830 was 918,608, and its increase in ten years had been $39\frac{1}{2}$ per cent. Three-fourths of this number are engaged in agriculture, though not more than one-fourth of the land is in cultivation. Wheat is the chief article of raw produce raised for exportation; most of the other agricultural products finding a sure and liberal market in the towns and villages of the State.

In commerce, New York is superior to any other State, and in shipping it is second only to Massachusetts. More than half the imports from foreign countries into the United States are received here; and its exports amount to one-fourth of the whole. It owes this pre-eminence to its excellent harbour, accessible at all seasons; its central position; the large proportion of its fertile land; and its easy communication with its own interior and with other States, not only by the Hudson, but more recently by the canals which communicate with Lakes Champlain, Ontario, and Erie. These are natural advantages, which time will continue to develop, and which bid fair to secure to this State permanently the same, or even a yet greater relative superiority. The very active trade which is destined one day to take place on those inland seas, the great lakes, is likely to find its principal vent through this State. Nothing but the immense profit which this trade already produces would have justified the cost of the magnificent canal which connects Lake Erie with the Hudson. This navigation, including twelve miles of Tonawanta creek, is 363 miles in length. It has 18 aqueducts and 73 locks—76 ascending and 7 descending—which finally reach the summit level at Buffalo, 563 feet above Albany. The whole cost exceeded nine millions of dollars, and the annual tolls already exceed a million. There are a number of cross canals branching from this, of which that from Syracuse to Oswego is 38 miles long. The *Champlain or Northern Canal* from Albany to Whitehall on the Lake, is 73

* The term "town" in the New York laws is synonymous with township, and of course comprehends the cities, towns, and villages which may be within its limits. The *incorporated villages* are governed by a president and trustees (generally five), who are annually chosen by the people. They differ from cities only in having more limited powers and jurisdiction.

miles long. These several canals, measuring 510 miles in length, were all constructed at the public expense, and they will soon, after repaying their cost, afford a revenue adequate to all the wants of the State. The *Delaware and Hudson Canal*, which crosses New Jersey to Pennsylvania, was made principally by New York capital, as its purpose was to supply the city with coal from the mines of Luzerne county in Pennsylvania. Four other canals, in total length 150 miles, have been undertaken by the State, and are now in progress. Railroads have been constructed from Albany to Schenectady, 16 miles; from Schenectady to Balston and Saratoga, 22 miles; four others, extending more than 200 miles, are now in progress; and 25 others, estimated to cost more than 24,000,000 dollars, have been projected, and have obtained charters from the legislature. The number of *Banks* in this State in February, 1833, was 84, whose aggregate capitals were about 30,000,000 dollars. In the same year, eight new banks were being incorporated.

Manufactures have made great progress in this State within the last twenty years. There are upwards of 200 manufacturing companies incorporated. By the State census of 1835 there were 111 cotton factories, 234 woollen factories; 293 iron works; 6948 saw mills; 141 trip hammers, and 71 oil mills. The principal articles of manufacture produced in a year were thus estimated in 1834: iron and iron manufactures, 4,000,000 dollars; cotton fabrics, 2,500,000 dollars; hats, 3,500,000 dollars; boots and shoes, 3,000,000 dollars; other manufactures of leather, 3,458,650 dollars; woollens, 2,500,000 dollars; paper, 700,000 dollars; window glass, 200,000; besides domestic manufactures, amounting by the same census to nearly 5,000,000 dollars. By the State census of 1835, the whole value of articles manufactured in the State was 60,669,067 dollars. In the villages in Salina township the salt annually made amounts to 1,500,000 bushels.

The State contains five incorporated cities; New York, Albany, Troy, Hudson, and Schenectady, and 96 incorporated towns. The city of New York, the largest on the American continent, is situated at the southern extremity of Manhattan Island, and at the head of the beautiful bay which has been mentioned. The city extends about three miles on the Hudson, or North River, and about four miles on the straight of the Sound, called East River. On the south and east it is very compactly built, with narrow and crooked streets, but as it proceeds to the north, and generally on the west, the streets are more regular and spacious; Broadway, in particular, running parallel to the Hudson for three miles, has no equal in the Union for extent and beauty. New York contains many handsome public buildings, among which the City Hall is the first. The white marble front and lofty cupola are seen to great advantage from the Park, of which it forms one of the sides. There are many other edifices in the city, both public and private, which are either wholly built or faced with the same beautiful material, obtained

from quarries in the neighbourhood. There are more than 100 churches, with a greater proportion of spires than is usual in American cities. The city contains as yet only three public squares, but one of them, "*The Battery*," at the point where North River and East River meet, affords a delightful promenade to the citizens, and a beautiful view of the Bay, alive with ships, boats and steamers crossing it in every direction. New York is not only the seat of almost the whole foreign commerce of the State, but is also the great central mart of the whole Union. More than half the foreign imports are received here. The city has a water communication not only with the interior of the State, but also by its canals with the country bordering on the great western lakes; with the North-western States; with Canada and Vermont, by Lake Champlain; with Connecticut and Rhode Island, by the Sound; and with New Jersey and Pennsylvania by the Rariton, the Hackensac, the Passaic, and the Morris canal. It has also a safe and capacious harbour, scarcely ever frozen over, within an hour's sail of the ocean. With such a rare union of the materials and facilities of commerce, its growth has been unexampled. The population, which in 1790 was but 33,000, was in 1830, 213,000; thus showing a sixfold increase in 40 years. It is always thronged with strangers from Europe, the West Indies, and every part of North and South America, and with visitors from the other States. Packet ships sail weekly throughout the year for Liverpool; as often for London; thrice a month for Havre, besides smaller packets to all the principal ports in the Union. To these we must now add a line of steam-ships between this city and different English ports. About 50 steam-boats, some of them carrying 300 or 400 passengers, ply on the Hudson, the Sound, or the waters of New Jersey. These, with the stage-coaches, bring and take away from the city, from two to three thousand individuals a-day through the greater part of the year, and give to this place an air of perpetual hurry and bustle. But this city, otherwise so fortunate, is ill supplied with water: measures, however, have been lately taken to procure an adequate supply from the Croton River, a few miles distant, and this great work, now in progress, is expected to be soon completed.

Opposite to New York, on the East River is *Brooklyn* on Long Island, which has a kindred growth with that city, of which it is in fact a suburb. Between the two places, three-quarters of a mile apart, a communication is kept up by steam and horse ferry boats, which cross from several points every five minutes, and thus supply the place of bridges, which from the strength of the tide and depth of the water, would here be impracticable. North-east of the town, on Wallabout Bay, is a navy-yard of the United States. The population of Brooklyn was, in 1830, 15,304; in 1835 it was 24,529, and now, in 1840, it is believed to exceed 30,000.

On each side of the Hudson are flourishing towns and villages, the most important of which are *Newburgh*, on the west side, 61 miles north of New York: population, 6,424. *Poughkeepsie*, on the east, 74

miles from New York: population, 7,222. *Catskill*, on the west, near the mountains of that name, 108 miles from New York: population, 4,861. *Hudson*, on the east, nearly opposite to Catskill, a great manufacturing town, and having about 12 ships engaged in the whale fishery: population, 5,392. *Albany*, on the west, the seat of government, and the second city in the State. It is, after James-town in Virginia, the oldest settlement in the United States. Its growth has been very rapid since the completion of the Erie and Champlain canals, the population having increased in ten years, to 1830, from 12,630 to 24,238. A basin, equal in area to 32 acres, here receives the canal boats. It contains some handsome public buildings erected by the State or the city, the most distinguished of which are the Capitol, and the Albany Academy, of brown freestone, and the City Hall, of white marble. They all front a public square on a commanding eminence, near the centre of the city. The distance of Albany from New York is 144 miles. Six miles above, on the opposite bank, is *Troy*, at the head of sloop navigation. It is a place of great trade, with a population, in 1835, of 16,959. On the Mohawk and the Erie canal are the following principal towns: *Schenectady*, on the south bank of the river, 15 miles north-west of Albany. It is the seat of Union-college, and has a handsome covered bridge over the Mohawk, 1000 feet in length: population, in 1835, 6272. *Utica*, on the south bank, 94 miles west of Albany: population, 10,183. Here the Mohawk, the canal, and the great western road all meet. *Syracuse*, extensively engaged in the manufacture of salt, 133 miles from Albany. *Canandaigua*, on the lake of that name: population, 5162. *Rochester*, on the Genesee and the grand canal, which here passes over a noble aqueduct of stone. It is 236 miles from Albany, 7 miles from lake Ontario, and has a ship navigation within two miles of the town. The falls of the Genesee give this place unlimited water power for mills and manufacturing machinery. Though founded only in 1812, it contained, in 1835, 14,404 inhabitants. *Buffalo*, at the north-eastern corner of Lake Erie, the termination of the canal and the head of Niagara river, population in 1835, 15,661; it already carries on a brisk and profitable commerce on the lake, of which it is the chief emporium. There are many other towns in the western part of the State, not inferior to those that have been mentioned, which owe their origin as well as present prosperity to the Erie canal. The traveller, meeting everywhere with thriving and tasteful villages, the growth as it were of yesterday, in a country which a few years since was an unexplored wilderness, is filled with surprise and admiration. The numerous lakes in this part of the country add greatly to the beauty and variety of the scenery. On the west side of Lake Champlain is *Plattsburg*: population, 4913. *Sackett's Harbour*, near the mouth of Black river, at the east end of Lake Ontario, is thought to be the best harbour on the lake: population, 2938.

This State has a university and four colleges. *The University* is in the city of New York. It has 17 professors, about 230 students, and

a small library. The chief building is of white marble in the gothic style. *Columbia*, also, in the city of New York, has a president and five professors. It is well endowed, and the libraries contain 14,000 volumes. *Union*, at Schenectady, has a president and four professors, with a library of 13,600 volumes. It exceeds them all in the number of students. *Hamilton*, in Oneida county, has a president and five instructors, with a library of 5000 volumes. *Geneva* has a president and three professors. There are medical colleges at New York and at Barfield, west of Albany port. The Presbyterians have a theological seminary at Auburn in the lake country; the Baptists one at Hamilton, and the Episcopalians one at New York. The school fund amounts to about 2,000,000 dollars; and it is sufficient, with the aid of private contributions, to instruct more than 500,000 children annually. The prevailing sects in this State are Presbyterians, Baptists, Episcopalians and Methodists.

There are two penitentiaries in the State, one at Sing Sing, on the Hudson, 33 miles above New York, in which the number of convicts in 1836 was 726: the other at Auburn contained 652 convicts in 1836.

The legislature consists of a senate of 32 members, and a House of Assembly of 128 members. The annual revenue of the State is more than 2,000,000 dollars, but the ordinary expenses, exclusive of the interest of the debt, do not exceed 600,000 dollars. New York was first settled by the Dutch, and called by them the New Netherlands. It was conquered by the English in 1664, reconquered by the Dutch in 1673, but restored to the English in the following year, and so continued until the revolution. The first constitution was formed in 1777, and it was amended in 1821.

The Military Academy, at West Point, on the west side of the Hudson, 50 miles above New York, belongs to, and is supported by, the general government; it has 30 professors and teachers, a good library, and about 250 cadets, each of whom completes his course of instruction in four years, and costs the government 336 dollars a-year.

THE MIDDLE STATES.—II. NEW JERSEY.

Bounded on the *north-east* by a right line from the Hudson to the Delaware, which separates it from New York, 46 miles; on the *west*, by the Delaware, which separates it from Pennsylvania, about 170 miles; and from the State of Delaware, 22 miles; on the *south-west* by Delaware Bay* to Cape May, about 60 miles; on the *east* by the Atlantic from Cape May to Sandy Hook, 129 miles, and thence on the *north* by Rariton Bay, 15 miles; on the *east and south* by the strait which separates it from Staten Island, 18 miles; on the *east*, again, by the Bay of New York and the Hudson, 28 miles. The area is 7500 square miles.

The coast of New Jersey is low and shelving, affording no inlets or

* The bay is here considered to begin at Delaware city, on the canal.

harbours, except for small vessels. *Rariton Bay*, into which the Narrows opens, lies between the west end of Long Island and the promontory called Sandy Hook ; it is about 10 miles across. At its south-east corner is *Sandy Hook Bay*, a good harbour in storms from the south or east ; and in the southwest corner is the *Bay of Amboy*, where the Rariton and Staten Island Sound meet. This is a good harbour for ships of any burthen. The *Bay of Newark* is entirely inland, and communicates with the Bay of Amboy by Staten Island Sound, and with New York Bay by the Kills. It is about $1\frac{1}{2}$ miles wide, and runs north 7 miles. *Delaware Bay*, which is common to this State and the State of Delaware, is 65 miles long and 30 wide. Though it abounds with shoals, it admits vessels of the largest class.

The Appalachian chain crosses the north-west corner of this State in two ranges ; of which the western is called the *Kittatinny Ridge*, and the eastern, the *South Mountain*. *Schooley's Mountain*, in the last mentioned range, is much frequented in the summer for its climate and scenery, as well as for its mineral springs. That range of trap or greenstone rock on the Hudson, called the *Palisadoes*, is principally in this State. It takes its rise in the neck of land between the Bays of Newark and New York, presents a steep and sometimes perpendicular face to the river of from 200 to 500 feet high, and extends to Rockland county in New York. The range is about $2\frac{1}{2}$ miles in width, with a summit of table land, from the margin of which there is a gradual slope to the west. The rest of the State is either undulating or level.

The rivers of this State, exclusive of the Delaware and Hudson, which form more than half its boundary, are the *Hackensac*, which, rises in Rockland county, New York, and runs parallel to the Hudson into Newark Bay. It is navigable 15 miles. The *Passaic* rises in the northern part of the State, and flowing to the east and south, falls also into Newark Bay. It is navigable 10 miles. The *Rariton* rises in the South Mountain, and, taking a winding course to the east, falls into the bay of the same name at Amboy. It is navigable 17 miles. *Great Egg Harbour* river, in the southern part of the State, which empties into the Atlantic, is navigable for large vessels 20 miles.

The south-eastern part of the State is generally sandy and thin ; but the north-western portion has much strong rich soil. A tract of secondary formation, 30 miles wide, lies on each side of the line which separates this state from New York. The minerals of New Jersey are, iron in abundance, especially the kind called *bog-ore* ; and *copper*. Mines of copper were wrought before the Revolution, and occasionally since ; but proving unprofitable, they have all, after a time, been discontinued. In the primitive ranges are galena, red oxide of zinc, slate, limestone, and serpentine. The State also contains marl, fine potter's clay, and various ochres.

In the southern part of the State the climate and vegetable produc-

tions are the same as those of Maryland. The northern part has the climate of Pennsylvania.

New Jersey contains 14 counties, divided into 120 townships. The population in 1830 was 320,823; and the increase in 10 years, 15½ per cent. The agricultural portion is employed principally in cultivating fruits and vegetables for the markets of New York and Philadelphia. Cyder is produced throughout the State, but that of Newark is the most celebrated. It is by the pursuit of agriculture that the inhabitants share in the commercial prosperity of the two largest cities in the Union. The chief manufactures are iron, nails, cotton fabrics, shoes, hats, carriages, red and white lead, and some articles of brass; and copper works on an extensive scale. On the sea coast both oyster and shell fisheries are carried on to a great extent.

Trenton, on the Delaware, 30 miles above Philadelphia, is the capital. Here the Delaware is first crossed by a bridge. The town has some cotton manufactures, and its population is 3,925. *New Brunswick*, the head of sloop navigation on the Rariton, and the seat of *Rutger's College*: population 7,831. *Newark*, on the west bank of the *Passaic*, 9 miles from New York, a very pretty and flourishing town, extensively engaged in the manufacture of carriages, shoes and saddles: population 10,953. *Patterson*, also on the *Passaic*, 10 miles above Newark and 14 from New York, is a manufacturing town of rapid growth. The river falls here 70 feet perpendicular, in a beautiful cataract, and to the water power thus afforded the town owes its prosperity: population 7,731. *Elizabeth Town*, near Staten Island Sound: population 3,445. The oldest settlement is *Amboy* or *Perth Amboy*, at the junction of that Sound and Rariton Bay: it is a small town, but carries on a considerable commerce. On the opposite side of the bay is *South Amboy*, which has had a much more rapid growth; its population is 3,782. This State is intersected by several canals and railroads. The *Morris Canal* crosses the northern part of the State from Jersey city on the Hudson to the Delaware, opposite to the Lehigh Canal, 94 miles. *Delaware and Rariton Canal*, from *Lamberton*, near Trenton, to New Brunswick is 75 feet wide and 7 deep; length 38 miles. The *Camden and Amboy railroad*, intended to facilitate the communication between Philadelphia and New York, by way of South Amboy, is 61 miles long: the *Patterson and Hudson River railroad*, connecting Patterson with Jersey city, opposite to New York, 14 miles. There were in 1838, 49 banks in this State, having a capital of 4,000,000 dollars. The shipping amounts to 33,144 tons.

New Jersey has two colleges. *Nassau Hall* at Princeton, is one of the oldest and most respectable institutions in the Union. It has a president and five instructors, with a library of 12,000 volumes. Here is also a *Theological Seminary*, established by the Presbyterians, with three professors. *Rutger's College*, at New Brunswick, has four in-

structors, besides a Theological School with three professors. The school fund of the State yields an income of 22,000 dollars. The *Presbyterians* are the most numerous sect; next to them the *Methodists*, *Reformed Dutch*, *Baptists*, *Episcopalians* and *Quakers*.

The legislature consists of a *Legislative Council* of 14 members, and a *General Assembly* of 50 members. The judges are chosen by the Council and Assembly for a term of years. The annual revenue of the State is about 55,000 dollars.

New Jersey was settled by the Danes and Swedes in 1624. The Dutch took forcible possession of it in 1655, and it was conquered by the English, together with New York, in 1664. In 1676 it was divided into two proprietary governments of East and West Jersey; but in 1702, the proprietors having surrendered their rights, the whole became one royal province. The present constitution was adopted on the 2nd of July, 1776.

THE MIDDLE STATES.—III. PENNSYLVANIA.

Bounded on the *north* by New York, from which it is separated, first, by the forty-second parallel, running west from the Delaware 230 miles, and then by a meridional line running north to Lake Erie, 18 miles; on the *north-west* by that lake 39 miles; on the *west* by a meridional line from Lake Erie to the parallel of $39^{\circ} 43'$, which line separates it from Ohio, 93 miles, and from Brooke County in Virginia, 64 miles; on the *south* by the same parallel to the State of Delaware, separating Pennsylvania from Virginia, 57 miles, and from Maryland 198 miles; on the *south-east* by the arc of a circle, which separates it from Delaware, 26 miles; on the *south-east* and *north-east*, alternately, by the river Delaware, which separates it from New Jersey, 170 miles, and from New York, 60 miles. On three of its sides this State is a right-angled parallelogram, with the exception of the small projection at its north-west corner, and the small indentation at its south-east corner. Its eastern boundary, terminated in two points by the zig-zag course of the Delaware, assumes the form of the letter W. The area is 47,500 square miles.

The Appalachian chain is supposed to have its greatest width in this State, which is not less than 150 miles. It consists of various parallel ranges, which, more or less distinctly marked, traverse the State in a north-easterly direction. Of these ranges the following are either the most conspicuous, or have been most accurately traced: 1. The most eastern, entering the State from the south, crosses the counties of York and Lancaster, separates Chester and Montgomery from Berks, and Bucks from Lehigh and Northampton. It then traverses New Jersey to the Highlands in New York, and, after being intersected by the Hudson, continues through Vermont into Lower Canada. 2. The next range, which is a continuation of the *Blue Ridge* of Virginia, as the former is of

the south-west mountain of the same State, enters Pennsylvania between the counties of Adams and Franklin, where it is called the *South Mountains*, and passing successively below Harrisburg, and by Allentown, Bethlehem, and Easton, it crosses New Jersey and becomes the *Shawangunk Mountains* in New York. Both these ranges vary greatly in the elevation of their several parts; and in some places their continuity is entirely broken. Hence neither of them has a general name through the State. No part of the first range is thought to reach 1000 feet above the level of the sea, nor any part of the second range 1500 feet. 3. The *Kittatinny*, or *Blue Mountains*, a continuous and more elevated range, enters the State in Franklin county, passes west of Harrisburg, and continues through the State and along the western margin of New Jersey to the *Catskill Mountains* of New York. This range corresponds to the *North Mountain* of Virginia. 4. A range which is first called *Core Mountain*, and then *Tuscarora Mountains*, separates Franklin county from Bedford and Huntingdon county, and Parry from Mifflin. It is continuous to the *Susquehanna*. To the east of that river it proceeds, in detached mountains and ranges, in a course equidistant from the *Kittatinny* range and the eastern or main branch of the *Susquehanna* to the New York line. 5. The *Alleghany*, at a greater interval than any which separates the preceding ranges, enters the State in Somerset county, and passes in a continuous chain along the western margin of Bedford and Huntingdon through Centre county to the western branch of the *Susquehanna*, where it terminates; but the mountains near Towanda, on the northern margin of the State, are supposed to be a continuation of the same range. For about 60 miles north of the Maryland line, the *Alleghany* separates the waters of the Ohio from those of the Atlantic, but, as it proceeds farther north, the streams on both sides of it fall into the western branch of the *Susquehanna*. 6. About 20 miles further west is the range called *Laurel Hill*, which, entering Pennsylvania near the north-west corner of Maryland, separates Somerset county from Fayette and Westmoreland, and thus continues in a north-east course across about one-third of the State. 7. The most western range is *Chestnut Ridge*, 10 miles from the preceding. It has less elevation than the *Laurel Hill*; but extends as far to the north-east. The names of these two ranges are reversed in Virginia, and in some treatises of geography. All these ranges, on approaching the southern limits of the State, take nearly a south course, inclining to the west; but they gradually deflect to the south-west direction, which they afterwards maintain across Maryland and the greater part of Virginia. The average breadth of each range is about 3 miles, and the ranges sometimes consist of several distinct parallel ridges, more or less interrupted. Most of the ranges may be traced to the south of Pennsylvania, still more distinctly than to the north of it.

The *Delaware*, which bounds this State on the east, is navigable for

merchant ships to Philadelphia, 126 miles from the sea; on the west it receives the *Lehigh*, at Easton, about 90 miles above Philadelphia, after that river has flowed 75 miles from the north-west. Six miles below Philadelphia it receives the *Schuylkill*, which, rising in the Blue Mountains, also flows to the south-east, 130 miles. The *Susquehanna*, as already mentioned, consists of two branches, the *northern* rising in New York, and the *western* in the Alleghany Mountains. Both branches find a passage through all the mountainous ranges which have been mentioned, except the two last, and across the three most easterly ranges after their junction. The *Juniata* rises in the Alleghany, and flowing easterly through the mountainous district for 180 miles, falls into the *Susquehanna* 11 miles above Harrisburg. The *Alleghany* rises on the west side of the Alleghany range, and flowing northward, enters New York; then gradually turning to the south-west, it unites, after a very winding course of 400 miles, with the *Monongahela*, at Pittsburg, and forms the Ohio. The *Monongahela* rises in Virginia, and has a northerly course of about 300 miles. The *Ohio* flows about 45 miles to the west before it leaves this State. The *Youghiogany* rises west of the Alleghany, flows to the north-east through the Laurel and Chestnut ranges, and joins the *Monongahela* 15 miles above Pittsburg.*

The soil to the south and east of the mountains is generally very good, consisting of a rich, friable loam; and in the mountainous district the valleys are also very fertile. The region west of this district partakes of the fertility which characterises the Mississippi valley. No State abounds as much in iron ore as this, or possesses so many furnaces and iron works. It is also rich in coal, both anthracite and bituminous. The anthracite is found principally in the *Susquehanna* valley. The country containing it is about 70 miles long and 5 broad. It is always found in beds of from 1 foot to 27 feet thick. The bituminous coal is confined to the Alleghany or the country west of it, and is found in seams that rarely exceed six feet in thickness. *Copper, lead, and salt*, are also found in this State; and quarries of marble and slate are extensively wrought. The mineral springs in Bedford county are much resorted to by invalids; they contain iron, magnesia, and lime.

Pennsylvania is divided into 51 counties, and 651 townships. The population by the last census was 1,348,233, and the increase in ten years was 28½ per cent. It is chiefly agricultural, and in no State are the products of the land more increased by good husbandry. Wheat and maize are the chief articles of culture, but the other species of grain are exten-

* In giving the length of the rivers of Pennsylvania, as well as of the other States, an attempt has been made to include the windings of the streams—not only because we can in no other way estimate the extent of the navigation, but also because the quantity of rich alluvial land on the river margins is more correctly indicated in this way than by giving the length of the valley or basin which they drain.

vely raised for home consumption. Hemp and flax are also much cultivated. In its orchards, dairies, cattle and horses for draught, has few rivals in the Union. The commerce of the State centers in Philadelphia. In shipping it is only the fifth State. In manufactures it ranks the first both as to variety and extent. The most considerable are of iron and iron wares, of cotton, wool, leather, glass, brass, copper, lead, carriages, paper and books. Philadelphia and Pittsburg both owe their principal support to manufactures. The interior traffic of the State was formerly carried on wholly by waggons, but now much of it has the benefit of inland navigation; and there will soon be communications by canals or railroads between Philadelphia and every part of the State.

Pennsylvania has followed the policy of New York in constructing its principal canals at the expense of the state. The *Pennsylvania Canal* commences at Columbia, 81 miles west of Philadelphia, proceeds north-west along the north bank of the Susquehanna to the Juniata, and thence along the north bank of that river in a westerly course to Hollidaysburg in the Alleghany Mountains: it there meets a railroad to the Kiskiminitas, 37 miles, where the canal again commences, and following that stream to its mouth, and then the Alleghany river, terminates at Pittsburg. A railroad from Columbia to Philadelphia, 82 miles, completes the communication to Pittsburg, a distance of 394 miles. The *Schuylkill Canal*, beginning at Philadelphia, follows the river in a north-westerly course to Mount Carbon in the Blue Mountains, a distance of 108 miles. It consists, in fact, of a series of canals, connected by locks and dams on the river. The *Union Canal* connects the two preceding canals, between Reading on the Schuylkill and Middletown on the Susquehanna; length 822 miles. There is a tunnel on this canal 129 feet in length, the longest as yet in the United States. It has a branch up the *Swatara* to the Schuylkill coal mines, 27 miles. The *Conestoga navigation*, consisting partly of canal and partly of dams, runs south-west from the city of Lancaster to the Susquehanna, 18 miles. The *Codorus navigation*, which connects York with the Susquehanna, is of the same character as the preceding, and is 16 miles long. The *Lehigh Canal* connects the Delaware with the coal mines at Mauch Chunk: it crosses the Blue Mountains, and its length, including 9 miles of the river, is 46 miles. The *Lackawaxen Canal* connects a railroad from the Lackawanna coal mines with the Delaware, and is in fact a continuation of the Hudson and Delaware canal: its length is 25 miles; the railroad is 16 miles long.

In addition to the Pennsylvania canal, the State is now constructing the following: 1. A canal from the mouth of the Juniata along the Susquehanna and its western branch to the Muney Hills in Lycoming county, 105 miles. 2. Another along the eastern or main branch of the Susquehanna from Northumberland to Nanticoke Falls, 60 miles,

and thence to the mouth of Lackawanna Creek, 15 miles. 3. The *Delaware Canal*, from Bristol, on the Delaware, to Easton, on the Lehigh, 60 miles. 4. A canal from Meadville on a branch of the Alleghany to a small stream emptying into Lake Erie, 25 miles. To effect these several improvements, the State has contracted a debt of more than 20 millions of dollars.

Besides the railroads that have been mentioned, there are some others in the State which principally communicate with the coal mines, and which, with those already mentioned, make the aggregate of railroad in the State 255 miles, besides above 100 miles more that are now in progress. The whole amount of canals completed, or nearly so, is 870 miles, of which 589 miles are at the expense of the State.

Philadelphia is situated on the neck of land between the Delaware and the Schuylkill, six miles above their junction, and 126 miles from the sea. It was originally laid out by Penn, its founder, in the form of a parallelogram a little more than a mile in width, and extending from river to river about two miles. It has, however, scarcely yet reached the Schuylkill, except by scattered buildings on a few streets, but it has extended along the Delaware nearly a mile below, and more than a mile above its original limits. The last of these outer portions is called the *Northern Liberties*, and the first *Southwark*. The almost unvarying level of the site of this city, and the extreme regularity of its streets, all crossing one another at right angles, and almost at equal distances, at first convey to the stranger the impression of an unpleasing sameness, but he soon finds himself compensated for the want of variety in the plan by its substantial benefits, as well as by the many other advantages possessed by this city,—its abundant supply of good water; the excellence of its market; its unrivalled neatness, quiet, and order. Philadelphia contains more handsome buildings, public and private, than any other city in the Union. The Schuylkill marble in the vicinity has exerted a propitious influence on its architecture: it more or less decorates all the best buildings, and some of the public edifices are wholly constructed of it, as the Banks of the United States and of Pennsylvania, and the Mint of the United States. The penitentiary, built of granite, is the largest structure in the country, covering ten acres of ground. The city is supplied with water from the Schuylkill, where it is raised into a large reservoir by forcing pumps, worked by the current of the river itself. The museum, city library, academy of fine arts, and philosophical society are superior to any similar institutions in the United States. Philadelphia contains ninety churches, of which an unusually small proportion are decorated with spires. A little below the city the United States have a navy yard. In commerce it is second only to New York; and in manufactures, both as to variety and excellence, it holds the first place. Its population, by the last census, was 161,427: in 1790 it was only 42,500.

Sixty miles west of Philadelphia is *Lancaster*, on the Conestoga, a small branch of the Susquehanna. It is a thriving well built town, in the heart of the richest and best cultivated part of the State : its population is 7,704, and, like that of the surrounding country, is mostly German. *Harrisburg*, on the Susquehanna, thirty-five miles west of Lancaster, is the seat of government : population, 4,311. *Reading*, on the Schuylkill, fifty-one miles north-west of Philadelphia, is a thriving manufacturing town : population, 5,859. *Pittsburg*, at the confluence of the Alleghany and Monongahela, and the site of the old French post, *Fort Duquesne*, is a town of great trade, and so remarkable for its manufactures, particularly of iron, as to be called the Birmingham of the west. It has a bridge over each branch of the Ohio, and very extensive suburbs on both rivers. Its principal manufactures are iron, nails, steam-engines, and ironmongery of every description, with cotton and woollen fabrics ; its success in these branches of industry is owing to the abundance of coal found in all the neighbouring hills, especially those on the further bank of the Monongahela, where it lies in horizontal strata 300 feet above the level of the river, and is so accessible as to cost little more than the expense of digging.* Great numbers of steam-boats are constantly arriving at this place, or leaving it, whenever the Ohio is navigable, which it is for large steam-boats about five months in the year, and for small ones at all times, except during the five or six weeks that the navigation is interrupted by ice. The Ohio is here 600 yards wide. The population of Pittsburg in 1830, exclusive of the suburbs, was 12,530 ; with them, it was 22,433. The whole is now (1840) supposed to exceed 50,000.

The State has no less than nine institutions which hold the rank of colleges, which are now in operation, besides two that are closed at this time. Of these, five are in the eastern part of the State, and four in the western. They are, 1. The University of Pennsylvania, in Philadelphia, which has an academic faculty of five professors, and a medical faculty of nine professors : this last constitutes the largest and most approved medical school in America. 2. *Dickinson College*, at Carlisle, has four instructors, and a library of 7,000 volumes. 3. *La Fayette College*, at Easton, has a president and three professors. 4. *Pennsylvania College*, at Gettysburg, has a president and four professors. 5. *Bristol College* has a president and five instructors. 6. *The Western University*, in the northern suburbs of Pittsburg, has four instructors. 7. *Jefferson College*, at Canonsburg, has a president and six professors, with a library of 3,500 volumes. The *Jefferson Medical School*, which is in Philadelphia, is a branch of this Institution, and has six professors. 8. *Washington College*, at Washington, has seven instructors, and a library of 1,500 volumes. 9. *Alleghany College*, at Meadville, has four in-

* It was lately delivered in the city at 6 cents per bushel.

structors, and a library of 8,000 volumes. No one of these institutions, the medical departments excepted, has yet attained a high reputation; and, indeed, education generally is far less an object of popular favour in Pennsylvania than in the States north of it. There are, however, evidences of a salutary change in this respect. In 1831 provision was made by the legislature for a "common school fund," which is to accumulate until it amounts to 100,000 dollars a-year, an amount it was expected to reach in 1839. *Bethlehem*, a Moravian settlement on the Lehigh, is the seat of a very successful seminary for females. Under this head the munificent donation of the late Stephen Girard to the City of Philadelphia ought not to be omitted. He has bequeathed 2,000,000 dollars certain, and more if more should be required, to the sole purpose of erecting and maintaining a college for orphans. The bequest, after completing a noble marble structure, as the donor directed, will be sufficient to make this the best endowed place of instruction in the United States.

The prevailing sects in the State are Presbyterians, Methodists, Baptists, German Reformed, and Episcopalians. The Quakers are also numerous in the eastern part of the State, and the Catholics in every part. A large part of the population of Pennsylvania, especially in the middle and western districts, are Germans; they retain the use of their language, and a considerable number of newspapers in German are printed and circulated in the State.

The General Assembly consists of a senate of thirty-three members, and a House of Representatives of 100 members. The governor is elected triennially by the people. The annual revenue is about 1,000,000 dollars. There is a large public debt; but, as the money was expended in canals and railroads, the State has in these improvements, and the tolls which they yield, an accession of property more than equal to its debt.

Pennsylvania was settled in 1681 by William Penn, a quaker, by virtue of a grant from James II. The amended constitution was signed at Philadelphia on the 22nd of February, 1838.

THE MIDDLE STATES.—IV. DELAWARE.

Bounded on the north by Pennsylvania, from which it is separated by the arc of a circle of which Newcastle would be the centre, twenty-six miles; on the west, by a line a little east of south, which separates this State from Maryland, eighty-six miles; on the south, by the parallel of 38° 27', which separates it from the same State to the ocean, thirty-six miles; on the east, by the Atlantic to Cape Henlopen, thirty-two miles; on the north-east, by the Delaware bay and river, ninety-miles. It contains 2,420 square miles.

Besides the river which forms its eastern boundary there is no stream of this State that is dignified with the name of river; but the creek

and small water-courses are numerous. The most important of these are the Brandywine and Christiana creeks, near the northern limit of the State, which unite 2 miles from the Delaware. No one of the streams affords a good harbour for ships; but the breakwater now constructing by the general government within Cape Henlopen is expected to afford a very good one. This mole is two-thirds of a mile in length, and twenty-two feet wide at the top. A dike, half the length of the breakwater, and parallel to it, is a defence against the ice which is brought down the river.

The State is uniformly level, with the exception of its northern extremity, where the surface is waving, and occasionally hilly. The soil varies with the surface; it is clayey in the north; becomes gradually more sandy in proceeding to the south; but on the Delaware and some of the creeks it is very fertile. The line which divides the streams of the Delaware from those of the Chesapeake passes through this State, but it is marked rather by a series of swamps and marshes than by a ridge, and it terminates at the south in a large cypress swamp. Bog iron is found in the part south of the line, but it is not worked at present.

This State is divided into three counties, and subdivided into 24 hundreds. Its population, which is less than that of any other State, is 76,739, including 3,305 slaves. The increase for 10 years was but $5\frac{1}{2}$ per cent.

The chief staples of Delaware are wheat, and the timber obtained from the marshy lands. Manufactures are carried on to a considerable extent by means of the abundant water power afforded by *Brandywine* creek. These are flour, cotton and woollen fabrics, paper, gunpowder and snuff.

The chief towns are: *Wilmington*, situated between Brandywine and Christiana creeks, two miles from the Delaware. It is well built, has an extensive commerce in flour and other articles manufactured at the Brandywine mills, and its population is 6,628. *Dover*, on Jones's creek, is the seat of government; it is a small, well-built town. *Newcastle*, upon the Delaware, was once the capital of the State, but it now has little trade, and its population 2,463, is less than it was ten years ago. The shipping of the State amounts to 13,266 tons. Its banking capital is 830,000 dollars, distributed among four banks and their branches. The canal which connects the Delaware with the Chesapeake is wholly in this State. It is navigable for small sea vessels, and though only 14 miles long, cost more than two millions of dollars. The *deep cut* of this canal is 4 miles long through a hill 90 feet high: it is crossed by a bridge of a single arch, and 255 feet span. The profits of the canal, never sufficient to repay this heavy cost, have been further impaired by a railroad, which also connects the two bays, and which is now used by most travellers. It extends from Newcastle in this State to Frenchtown in Maryland, 16 miles.

The State has a college at Newark, recently established, with three instructors. It has also a school fund, which yields an income of 9,000

dollars. The religious sects are the same as those in the eastern part of Pennsylvania.

The General Assembly consists of a senate of nine members, and a House of Representatives of 21 members. The annual expenditure is 13,000 dollars.

Delaware, like New Jersey, was first a colony of Sweden, and it in like manner passed from the Swedes, first to the Dutch, and then to the English. In 1682 it was granted, with Pennsylvania, to William Penn: it was separated from that colony in 1701, with a separate legislature, but under the same governor. A new constitution was adopted in 1776, which was superseded by its present one in 1792.

THE MIDDLE STATES.—V. MARYLAND.

The outline of this State is singularly irregular. Beginning at its south-east corner, it is bounded *on the east* by the Atlantic to the parallel of $38^{\circ} 27'$, 35 miles; *on the north* by that parallel which separates it from Delaware, 36 miles; *on the east again*, by the western boundary of the same State, 86 miles; *on the north again*, by the parallel of $39^{\circ} 43'$, which separates it from Pennsylvania, 198 miles; *on the west*, by a meridional line running south to the Potomac, and separating it from Virginia, 36 miles; *on the south and south-west*, by the Potomac to its mouth, 320 miles; *on the south*, by the Chesapeake, 40 miles; and by a line to the Atlantic, 15 miles, which line and river separate it from Virginia.* The area, omitting the larger portions of the Chesapeake within its limits, is 11,150 square miles, of which about one-third lies on the east side of that bay, and is called the Eastern shore. That part of the Chesapeake which lies within this State contains many islands, the most important of which is *Kent Island*, opposite to Annapolis, 12 miles long by 5 broad. *Assatiegue*, a long narrow island on the coast, and *Tangier Island*, in the Chesapeake, lie partly in this State and partly in Virginia.

This State possesses no good harbour except on the Chesapeake, but on that bay there are numerous ports within the limits of this State. Annapolis has a harbour fit for the largest men-of-war; and the harbour at Baltimore is accessible to vessels of 600 tons. On each side of the Chesapeake there are many bays and inlets, which afford excellent havens for small vessels; and the people living on them have fully availed themselves of this natural advantage.

The several ranges of the Appalachian chain which have been men-

* This line, as well as some others, which, by the colonial charters, were intended to be parallels of latitude, owing to the unskilfulness of surveyors, imperfection of instruments, or other accident, deviated from their proper course. But in such cases the error has been cured by time, and the line once actually run and marked has been adhered to. In this way Virginia has gained a little from Maryland, and has lost a great deal to North Carolina.

tioned, except the two most western, traverse this State from its northern to its southern boundary; but this part of Maryland is so narrowed by the near approach of the Potomac to the Pennsylvania line, as to make some of these ranges within this State less than 10 miles long. The *Blue Ridge*, called also the *South Mountain*, extends about 35 miles across the State, and a ridge of the Alleghany, the *Backbone Mountain*, extends about 50 miles. The less defined ranges east of the Blue Ridge are yet longer, by reason of the greater width of that part of the State. The *Sugarloaf Mountain*, near the Monocacy River is in the range east of the Blue Ridge.

The *Susquehanna* flows about 20 miles in this State, before it empties into the Chesapeake. The *Potomac*, which is common to this State and Virginia, through its whole extent, is more than seven miles wide at its mouth, and is navigable to Washington, 103 miles, for the largest ships; and for boats to Cumberland, 188 miles further, by the aid of canals round the several falls. At Hancock's Town, 137 miles (93 miles direct) from Washington, the river approaches within about two miles of the Pennsylvania line, after which, pursuing an irregular but general south-east course to the Chesapeake, it passes through the Blue Ridge at Harper's Ferry, 68 miles from Washington. The *Patuxent*, after a south-east course of 110 miles, falls into the Chesapeake, 20 miles north of the Potomac. It is navigable for vessels of 250 tons to Nottingham, 46 miles, and for boats 14 miles further. The *Severn* is a short, but wide and deep river, on which Annapolis stands, two miles from its mouth. The *Patapsco* is navigable to Baltimore, 14 miles, for ships drawing 18 feet of water, and for small vessels eight miles further to Elkridge Landing. On the eastern shore there is a number of small streams, which, by reason of the flatness of the country, are of great width compared with their length, and have as much the character of creeks as of rivers. They are *Elk River*, navigable 13 miles to Elkton, *Sassafras River*, *Chester River*, navigable to Chester Town, *Choptank*, *Nanticoke*, *Wiromico*, and *Pocomoke*, navigable to Snow Hill, all of which have their sources in the State of Delaware, and flow in a south-westerly direction to the Chesapeake.

The soil of the "eastern shore," and part of the western is alluvial, and, in the main, sandy; but on the numerous water-courses it is very rich, and well adapted to the cultivation of wheat, tobacco, and maize. This is the most northern Atlantic State where tobacco is cultivated as a staple; and that delicate kind, called *Kitefoot*, is made principally in this State. It is grown altogether on virgin soil, and one that is at the same time rich and sandy. The northern part of the "western shore," east of the Blue Ridge, is in the great primitive belt, and has the variety of soil which belongs to that formation. In the mountainous district the ridges are rocky and steril, whilst the intervening valleys possess great fertility. Wheat and maize are cultivated throughout the whole

"western shore," but the culture of tobacco is confined to the part which lies to the east of the Blue Ridge. The valuable minerals of Maryland are confined to the western division. They are chiefly iron and coal, in the mountainous district. The eastern shore and southern part of the western shore are subject to the diseases of low marshy countries; the rest of the State, comprehending about one-half of it, is very healthy. The temperature of this State is colder than might be expected from its climate; there is seldom a winter that the Potomac is not frozen over at Washington.

Maryland is divided into 19 counties, eight of which are on the eastern shore. The population in 1830 was 447,040, of which 102,994 were slaves, and 52,912 were free coloured. The rate of increase in ten years was 9 $\frac{1}{4}$ per cent. The large proportion of good soil possessed by this State has given it a greater density of population than any other State out of New England.

Though most of the inhabitants follow agricultural pursuits, yet a greater proportion are engaged in those of commerce and manufactures than in any other slaveholding State. The tonnage of Maryland is 80,708 tons, of which 47,120 belong to Baltimore. The State has 22 banks, whose united capitals amount to about 9,000,000 dollars. The canals in this State are: 1. *Port Deposit Canal*, on the Susquehanna, at its lowest falls, above Havre de Grace, 10 miles in length. 2. The *Ohio and Chesapeake Canal*, on the north bank of the Potomac from Washington city. This canal is completed to Williamsport, 114 $\frac{1}{2}$ miles from Washington; and about 70 miles higher up the river there is an inexhaustible bed of bituminous coal, of the finest quality, on the very bank of the canal. This alone, it is expected, will induce the legislatures, either of the General Government or of the States, if not individual capitalists, to supply the funds now wanted for the further prosecution of the work. It is not, however, probable that it will be carried further west than the coal mines for some time. According to the original plan it was to terminate at Pittsburg.

The *Chesapeake and Ohio Railroad* was undertaken with the similar view of bringing the trade of the west to the Atlantic by connecting Pittsburg with Baltimore. It is now finished as far as Harper's Ferry, a distance of 80 $\frac{1}{2}$ miles, where it meets with the canal from Washington; but its further progress is suspended for the present. A branch of this railroad to Washington facilitates the intercourse between Washington and the cities north of it. Its length to the city from the point of intersection with the former railroad is 33 miles. Another railroad from Baltimore to the Susquehanna has been begun: it terminates at York in Pennsylvania, and is 76 miles long.

Baltimore is the chief place of trade, not only in Maryland, but on the waters of the Chesapeake, and is the third city in the United States. It is pleasantly situated on the north side of the Patapsco, with a gentle slope

to the river, and is both regular and well-built. A small stream, called *Jones's Falls*, intersects the city from north to south, and discharges itself into the arm of the Patapsco, which forms the harbour and basin of Baltimore. This stream and another about a quarter of a mile east of it, and now converted into a straight canal, divide the city into three unequal parts; the most western, called *the City*, is larger than both the others united, and contains seven of the twelve wards; the middle division, called *Old Town*, consists of two wards, and the most eastern, *Fell's Point*, consists of three. Baltimore contains some handsome edifices, both public and private; but it is singularly deficient in public squares. It is decorated with two monuments of white marble: one, a column to the memory of General Washington, 160 feet high, surmounted with a colossal statue of the General. The other, also a column, is in honour of those who fell in the attack on the city by the British in 1814, and is 52 feet high. The city abounds in natural springs of excellent water, which are handsomely inclosed and accessible to all. Baltimore is the first transatlantic town which was lighted with gas. It has many thriving manufactories within its limits, or in its immediate vicinity, as well as an extensive commerce with the west, the various parts of the Chesapeake, and with foreign countries. The rapid growth of this town has been without example, except in New York. In 1790 the population was 13,503, and in 1830 it had increased to 80,625.

Annapolis, which has always been the seat of government, is two miles from the mouth of the Severn on its right bank, and 30 miles from Baltimore. Though it possesses an excellent harbour, it is without trade. Population, 2,629. *Frederick Town*, 42 miles west of Baltimore, is a flourishing inland manufacturing town. Population, 4,417. *Hagerstown*, west of the Blue Ridge. Population, 3,371. *Easton*, on Treadheven Creek, *Princess Ann*, on the Manokin, *Vienna* on the Nanticoke, and *Snow Hill* on the Pocomoke, are the chief towns on the eastern shore, and contain from 1500 to 2000 inhabitants each. There are several other ports of entry in this State of inferior importance, in which the shipping consists wholly of small coasting vessels.

The University of Maryland, in Baltimore, consists of a Medical College of six professors, and an academical department, which has not been carried into effect. *St. Mary's College*, in the same city, is a Roman Catholic institution, which has 18 instructors, and a library of 10,000 volumes. *Mount St. Mary's College*, another Catholic Institution, near Emmitsburg, has 25 instructors, and a library of 7,000 volumes. *St. John's College*, at Annapolis, has seven instructors, and a library of 3300 volumes. The public fund for the support of common schools in this State is about 150,000 dollars; and the State makes an annual appropriation for the University and other high schools, which sometimes exceeds 20,000 dollars.

The Roman Catholics are the most numerous sect in this State: the

archbishop resides in Baltimore. Next to them are the Episcopalians, Presbyterians, Methodists, and Baptists. There are Germans in this State also, and some German newspapers are printed.

The legislature consists of a senate of 21 members, chosen by electors every five years, and of a House of Delegates of 79 members. The annual revenue is about 240,000 dollars.

Maryland was settled by English Catholics in 1633, under a grant from Charles I. to Lord Baltimore. In 1688 the charter was revoked, and the colony was governed by the Crown. In 1716 it again became a proprietary government, and so continued until the American revolution. The present constitution was formed in 1776, but has since undergone some partial amendments.

DISTRICT OF COLUMBIA.

This comprehends an area of ten miles square, which was ceded by the States of Maryland and Virginia to the United States, and over which the federal government has exclusive jurisdiction. Its southern angle is at Jones's Point, a little below Alexandria, from which it runs due north-east across the Potomac into Maryland, and due north-west in Virginia, so that a little more than a third of its area, or 36 square miles, lie south of the Potomac. It is divided into two counties, and contains three cities. The population, by the last census, was 39,858, and the increase in ten years was 20 per cent.

The City of Washington, the metropolis of the United States, is laid off on the north side of the Potomac, at its junction with the *Eastern Branch*, a short but wide and deep stream which flows from the north and east. In the plan of the city it has been attempted to combine regularity with variety. Besides the ordinary streets, which all intersect at right angles, there are *avenues* of much greater width, which being laid off to suit the levels of the surface, or to connect important points, cross the city in various directions, and occasionally form squares and public places at the intersections of the streets. Only a small part, however, of this magnificent outline has yet been filled up, as Washington has neither the foreign commerce nor extensive inland traffic which is requisite to build up a large city. Almost the only part which is compactly built, is that which is on Pennsylvania Avenue, between the president's house and the capitol, both of which are handsome buildings of white freestone. The latter contains the halls of the two Houses of Congress, a library, and numerous other apartments, some of which are very spacious, and decorated with great taste. This building is crowned with a lofty dome; a Corinthian portico of white marble adorns its eastern front; it is surrounded by grounds tastefully planted and laid out; and upon the whole has no equal in America. Besides the streets in the heart of the city which are built up, there are groups of houses scattered here and there, according to the views and means of those

who build with the hope of profit, some of which are gradually receiving new accessions, while others, with a less fortunate situation, have fallen into neglect. There are various other public buildings of neat and substantial, but unpretending architecture.

About a mile east of the capitol, on the eastern branch, is the navy yard, which of itself forms a compact village. The site of the city is generally level, with small undulations, but a range of hills skirts it on the north, and presents beautiful situations for private dwellings. The population within the limits of the city is 18,833.

To the west of Washington, and almost connected with it, is *George Town*, a port of entry, and place of some trade before the cession, but which has greatly increased by its vicinity to the seat of government. It contains a convent and Catholic college. A range of hills, running north and west of the town, affords beautiful sites for building. The population is 8,441. On the south or Virginia side of the district, and 6 miles south of Washington, is Alexandria. This was formerly one of the most thriving towns in Virginia, and was supported chiefly by its trade in flour. Both its shipping and foreign commerce have greatly declined, but sanguine expectations are formed of the benefit which this, as well as the other towns of the district, will derive from the Chesapeake and Ohio Canal, a branch of which is now constructing from George Town to this place, $7\frac{1}{2}$ miles. It crosses the Potomac by an aqueduct 1,714 feet long. A wooden bridge, on stone piers, and more than a mile in length across the Potomac facilitates the intercourse with Washington. Population, 8,263. The shipping of the district is 17,286 tons, of which Alexandria has 10,560 tons, and George Town 6,626 tons. The banks of the district are seven, which together have a capital of more than 2,000,000 dollars.

Columbia College, in Washington, has eight Professors, and a library of 4000 volumes. A theological school, under the direction of the Baptists, is attached to it. *The Catholic College*, in George Town, has 19 instructors, and a library of 12,000 volumes. All the leading sects have churches in the district, but those of the Baptists are the most numerous.

This district was ceded by the States of Virginia and Maryland in 1790, and Washington became the seat of the federal government in 1800. Washington, George Town, and Alexandria, are immediately governed by their respective corporations, which act, however, under the authority of the Congress of the United States: and all legislation beyond the limits prescribed to these corporations is by special acts of Congress. The political constitution of the district is so far peculiar that the people, who are bound by it, have no agency, direct or indirect, in forming it—an anomaly which grew out of the division of sovereign power between the several States and the United States, and the obvious expediency of securing the principal functionaries of the federal govern-

ment from the local jurisdiction of any single State, or from collision with its authorities. There is a further anomaly in its political condition—that the inhabitants are unrepresented in Congress; but to this the Executive Legislature may at any time apply a remedy.

THE SOUTHERN STATES.—I. VIRGINIA

Is bounded on the north by a right line from the Atlantic across the peninsula of the Eastern shore and the Chesapeake Bay, to the mouth of the Potomac 100 miles: north-east, north and north-west, by the Potomac to its source, 52 miles: north-west, by a meridional line running south to the Pennsylvania boundary, 36 miles; by which lines and rivers it is separated from Maryland: on the north, by the parallel of $39^{\circ} 45'$ north, to the Ohio, again, by a meridional line running from the Ohio to the Gulf, 64 miles, which two last lines separate it from Pennsylvania: on the west, by the Ohio, to the mouth of the Big Sandy, 353 miles, by which it is separated from the State of Ohio: on the south, by the Big Sandy, 50 miles: on the north-west, by a divide north line along the Cumberland Mountains, 90 miles, by which it is separated from Kentucky: on the south by the parallel of $36^{\circ} 30'$ to the Atlantic, which parallel separates it from Tennessee, 350 miles, and from North Carolina, 350 miles: on the east by the Atlantic, 110 miles. The area is 66,624 square miles.

The Chesapeake Bay, the Chesapeake is in this State. It is formed by Cape Charles on the north, and Cape Henry on the south. That part of the coastward of Cape Charles, is skirted by a number of low sandy isles, which are usually inhabited by fishermen; and through this narrow waterway many small coasting vessels occasionally find a passage.

The Appalachian system transverses this State in a south-westerly direction, and has the same number of ranges as in Pennsylvania, though somewhat contracted in width. The most easterly range is called the *Snowden*, or *Green Mountain*, in the middle of the State; but further west is called the *Blue River* and *Allegheny*. In the southern part of the State it shows itself in detached ridges and mountains, each bearing a separate name. From about 20 to 30 miles north-west of the present range is the *Blue Ridge*, the summit of which presents a continuous wall of high land throughout the State. The distance at which its summits are to be seen, gives it the tinge to which it owes its name, and which is more or less blue according to the state of the atmosphere. Its highest summits are the *Peaks of Otter* in Bedford county, and the *High Top*, in the south-west corner of Grayson county,

and the *Long Run*, on the Atlantic westward, its course has been made to the *Allegheny* and the *Ohio*, where North Carolina gains and Virginia loses ground, and the *Allegheny* and the *Ohio*, which ought to have been the same, but are not, and consequently the loss to Virginia here is still greater.

re something more than 4000 feet. The ranges immediately west of the Blue Ridge are less uniform in height, direction, and continuity; different portions of the same range bear different names in different parts of the State. Further west is the *Alleghany* range, which no more is a dividing line between the waters of the Atlantic and the Ohio State, as is commonly supposed, than in Pennsylvania; the ridges are all crossed by the waters of the Ohio in the southern part of the State, and a part of them being crossed by the waters of the Atlantic in the northern part. Still further west the *Laurel* and *Chestnut* ranges of Pennsylvania extend about 40 miles into this State, and comprehend *Allegheny*, the *Gauley*, and the *Great Flat Top* mountains.

In the rivers of Virginia the *Potomac* and *James River* have been particularly noticed. The latter is navigable for small vessels to Richmond, and for boats near 200 miles further. The *Shenandoah* rises in the middle of the State to the west of the Blue Ridge, and flowing north-east along the great valley which bears its name for 180 miles unites with the Potomac at Harper's Ferry, where the river is supposed to have forced a passage through the mountains. The *South Branch* of the Potomac also rises near the centre of the State to the east of the Alleghany range, flows north-east, about 120 miles, and falls into the Potomac, 97 miles above Harper's Ferry. The *Rappahannock* rises in the Blue Ridge, and flowing to the south-east, empties into the Chesapeake, 20 miles south of the Potomac, after a course of 160 miles. It is navigable for small sea-vessels to Fredericksburg, 105 miles. *York River* is formed by the union of the *Pamunky* and *Mattaponi*, which rise in the Blue Ridge range of mountains, and uniting 15 miles south-west of the Rappahannock, take first a south-east, and then a north-east course of 20 miles to the Chesapeake. The river is navigable to York, 12 miles from its mouth, for the largest ships. The *Appomattox* enters James River from the south and west, at City Point, 34 miles below Richmond, after a course of about 120 miles; it is navigable for small vessels to Richmond, 12 miles, and for boats 95 miles further. Within the State and at the southern extremity of the Chesapeake, is *Lynnhaven*, which being formed by a slight curvature of the shore, is little more than an open roadstead. But all the principal rivers of Eastern Virginia terminate in great æstuaries, or bays, which constitute the best and only harbours. Of these Hampton Roads, at the mouth of James River, is the most important. This river, which is two miles wide at its mouth, expands into a spacious bay at its junction with Elizabeth River. The *Staunton*,* the northern and largest branch of the Roanoke, rises to the west of the Blue Ridge, and flowing to the south-east, unites with the James River near the southern boundary of the State, after a course of 100 miles. The *Nottoway* and *Meherrin* rise in the south-east part of the State below the mountainous region, and after flowing to the south-

* This branch is sometimes also called *Roanoke*.

east for more than 100 miles, pass into North Carolina, where they unite to form the Chowan. The *Blackwater*, a large branch of the *Notowatchig*, has a south course.

The other principal rivers of the State are tributaries of the Ohio. The *Monongahela* rises in the Laurel Mountain, and flows to the north more than 80 miles before it enters Pennsylvania. Its two branches, the *Tygart's Valley* and *Cheat Rivers*, which also are in Virginia, are little inferior to the river itself. The *Great Kenawha* consists of two branches: the southern, which is the longer, rises on the west side of the Blue Ridge in North Carolina, and flowing first to the north-east, and then north through the other mountain ranges, 200 miles, forms a junction with the other branch, which flows in an opposite direction (from the north-east), and is called the *Greenbriar*. After the confluence the river keeps a general north-west course for 150 miles to Point Pleasant, on the Ohio. Forty-four miles further south the Ohio receives the *Guyandot*, which has a north-west course of more than 100 miles. The *Big Sandy*, after flowing to the north-west, altogether in this State about 50 miles, and then along the Kentucky boundary, 70 miles, falls into the Ohio, 58 miles below Point Pleasant.

Virginia is divided physically, and also for some civil purposes, into four zones, running north-east and south-west. The first comprehends the region between the coast and the falls of the great rivers, where the tide is arrested. This belt is low, flat, and sandy, without a rock or stone of any description. It is, with few exceptions, poor land, except on the streams. The second, between the falls and the Blue Ridge, is more productive; its soil having the variety which belongs to the primitive formation, and the alluvial lands of its rivers being also richer than in the belt below. The third, between the Blue Ridge and the Alleghany, is a limestone country, and the most fertile of the four, consisting of elevated vallies which have the same general direction as the mountains. The last between the Alleghany and the western boundary of the State, contains a great variety of soil; but as two ranges of mountains traverse it, called *Chestnut* and *Gauley*, and as it is otherwise hilly, it has only a small proportion of very fertile land, except in the valleys and on the banks of the rivers.

There is a correspondent diversity of climate. Of the four oblique zones that have been mentioned, the first is the mildest in temperature, and the most unhealthy, especially in the summer months; the second is the most salubrious of all; and the third, extending from the Blue Ridge to the Alleghany, and the eastern part of the fourth are the coldest, the average temperature becoming higher as the land descends to the Ohio, as well as towards the Atlantic.

This State is peculiarly rich in minerals. Although this branch of her wealth has been very imperfectly explored, mines of iron, gold, lead, and coal are already wrought. *Iron works*, west of the Blue Ridge, are

merous. *Gold* is found in the primitive region below the mountains, and a belt which has the same south-westerly direction as the gold region North Carolina. Several mines are now wrought. There is a *lead* in the south-west part of the State. Salt springs are so numerous on the Kenawha, and in other parts of the Ohio valley, as not only to supply western Virginia with salt, but also part of the neighbouring States. *Sulphur* is abundant throughout the mountainous districts, but it is nowhere extracted for market except from a bed about 12 miles above Richmond, on both sides of James River, which has been traced about 40 miles. *Upper-ore* is found in the Blue Ridge, but it has not yet been wrought. *Gypsum* is found in the south-west, and is much used by the farmers in the neighbourhood, and is taken by water down the *Holston* to the south-eastern States. The State also has marble of various qualities, slate-stones, alum, and porcelain clay. The belt along the coast abounds in marble, which is beginning to be much used as a manure for the thin and exhausted lands of that region.

No State contains such a number and variety of mineral springs as Virginia. They are principally in the third belt, west of the Blue Ridge. The most celebrated and frequented are, 1. the *Warm Springs* in Bath county, which afford a natural fountain of warm water equal at all times to 96° of Fahrenheit, and sufficiently large to turn a mill. 2. The *Hot Springs*, six miles from the preceding, in which are several wells and fountains of a much higher, but less uniform temperature, and which are very efficacious in rheumatisms and cutaneous diseases. 3. The *Sweet Springs* in Monroe county, containing carbonic acid gas. 4. The *White Sulphur Springs* in Greenbriar county, the most resorted to of all, both for pleasure and health. They contain soda, sulphur, and magnesia, and are used for diseases of the liver and stomach. 5. The *Sweet Springs*, containing carbonic acid gas and iron. 6. The *Salt Sulphur*, like the White Sulphur, with the addition of salt. 7. The *Red Sulphur*, which are supposed to have the property of lowering the pulse, and are, on this account, frequented for pulmonary affections. In the northern part of the mountainous district there are several other mineral waters, but with properties less marked and diversified. Of these the *Berkeley Springs*, in the town of Bath, in Morgan county, attract numerous visitors.

These mineral waters are situated in one of the most delightful summer climates imaginable, and to its influence many of the cures effected may probably be attributed. They have numerous visitors from the other States, as well as from every part of Virginia; and if their accommodations were good, and they were rendered more accessible, they would, from their central position, the variety of their medicinal properties, and their unrivalled climate, become the most attractive place of resort in the Union.

The mountainous district of Virginia presents many interesting

natural objects. The most remarkable of these is the Natural Bridge, which is formed by a mass of rock, about 60 feet broad and 40 feet thick, stretching from one cliff or rocky parapet to another, and forming a tolerably regular arch. It is about 200 feet high. The opening is about 50 feet broad at the bottom, but widens as it ascends; a public road passes over it, and a small stream flows beneath this natural bridge. The passage of the Potomac through the Blue Ridge at *Harper's Ferry* has been much admired for its varied and striking scenery; and the craggy precipices attest the former disrapture of the mountain. *Weyer's Cave* is remarkable for its extent, and the singular variety of capricious figures which the stalactites assume. There is also the *Burning Spring*, a hole in the earth, from the bottom of which hydrogen gas constantly rises: after a rain it issues from a small collection of water, which then assumes the appearance of a spring. *Mount Vernon*, on the Potomac, and *Monticello*, near Charlottesville, derive a moral interest from their having been once the places of residence, as they now are of the tombs, of two very popular presidents. Though monuments and statues have been erected to Washington in several of the States, there is none to mark the spot in which he was interred. His remains are in a simple brick vault; but the place itself, being an eminence which overlooks the broad Potomac, and the Maryland shore beyond it, has great natural beauty. The scenery from Monticello, the residence of Jefferson, though it wants water, has more grandeur. The Blue Ridge is seen stretching to the north-east for 70 or 80 miles. To the south and east the landscape gradually melts into a uniform tint, which well represents a distant view of the ocean. Beneath the eye is seen the neatly-built village of Charlottesville, and further west the four parallel ranges of the University of Virginia, with the glittering dome of its rotunda; while the Rivanna, diminished to a mere thread, here and there exhibits its shining surface in the woody country which it passes through. Within 25 miles of Monticello, and in the same range of mountains (the South-west) are also the seats of the late presidents Madison and Monroe.

Virginia contains 112 counties, of very unequal size and population, and 1,211,405 inhabitants. Of these, 47,348 are free persons of colour, and 469,757 are slaves. The rate of increase in 10 years was $13\frac{1}{2}$ per cent.; the natural increase being reduced here as in the New England States, by a continual flow of emigration to the south and west.

The Blue Ridge divides the State into two nearly equal parts, which do not differ more in their physical character than they do in that of their population. This diversity arises principally from the fact, that seven-eighths of the people of colour are in the eastern division. In both, agriculture is the principal employment, but its particular branches are very various throughout the State. In the tide-water country maize is the chief article of cultivation, to which, of late years, cotton has been added. In some of the counties near the coast the *palma*

Christi, from which *castor-oil* is made, has become an object of extensive culture. In the primitive region above, wheat, maize, and tobacco are the staple products. West of the Blue Ridge wheat principally, and some tobacco; and in the remotest west, hemp is cultivated, but the business of the grazier is the prevailing pursuit. Ginseng is collected in the mountains for the northern merchants who trade to China.

In consequence of the number of navigable rivers in Virginia, all of which have their several ports of entry, its commerce has not been concentrated at one spot, and both slavery and the cheapness of land have made the pursuits of agriculture more inviting. The shipping of this State is only 43,778 tons, or less than a third of that of Maine. The exports to foreign countries are of the value of 4,467,587 dollars annually, but this amount by no means indicates the real extent of the trade, as by much the largest part of the exports are sent coastwise to other States, or overland to Alexandria, George Town, or Baltimore; and a portion is sent to market down the Ohio.

The canals of this State are that of the *Dismal Swamp*, common to it and North Carolina, and connecting Albemarle Sound with Elizabeth River: it is navigable for small vessels, and is twenty-three miles long. The *James River Canal*, extending from Richmond along the banks of the river thirty-one miles and a half. There is another canal on the same river, where it passes through the Blue Ridge, seven miles long. The *Appomattox Canal*, terminating at Petersburg, is six miles long. There are also some small canals on the Shenandoah, Rappahannock, and Dan, to facilitate the boat navigation of those rivers. The railroads are: the *Petersburg and Roanoke*, extending south from Petersburg, sixty miles. The *Manchester Railroad*, leading to the coal mines, thirteen miles. The *Portsmouth and Roanoke Railroad* is to connect Weldon, at the Falls of Roanoke, with Portsmouth and Norfolk, eighty miles. A charter for opening a communication between Richmond and the Ohio, by canals on James River and the Kenawha, and a railroad between them, has been obtained, and bids fair to be carried into execution. The State has a fund for canals and roads amounting to 2,879,002 dollars, producing an income of 115,000 dollars.

There are few manufactories in this State, but household manufactures are carried on very extensively, and no small proportion of the planters and farmers fabricate in their families all the clothing of their slaves, and the greater part of their own. The principal manufactures are of flour, and chewing tobacco, in the eastern division, and of salt in the western. In those of cotton, wool, leather and iron, Virginia is in the rear of the States north of her, and in advance of those to the south.

The State had, in 1838, five banking corporations, which, with their branches, amounted to 23 banks, and had an aggregate capital of 6,700,000 dollars.

Richmond is the seat of government. It is finely situated at the Falls

of James River, on the north side, and is built on two hills, which are separated by a gently sloping valley and a small stream. A canal along the Falls and rapids of the river terminates in a basin at Richmond, and this circumstance gives a great command of water power, which now puts in motion several large flour-mills, and may, with the aid of the coal found on the banks of the canal, one day make this a great manufacturing town. It contains some handsome public buildings: the population is 16,060. Vessels of 130 tons can come to Rocketts, at the lower end of the town; but City Point, thirty-four miles below, is the port for large vessels. Manchester, a small town on the opposite side of the river, is connected with Richmond by a bridge. *Norfolk*, on Elizabeth River, five or six miles from James River, is the most accessible port on the waters of the Chesapeake, but is not able to profit by its position for want of an extensive traffic with the interior. It aspires to obtain this advantage by facilitating its communication with the Roanoke, and has a good prospect of success: population, 9,816. *Portsmouth*, on the opposite side of the river: population 2,000; adjoining which, at Gosport, is a navy yard of the United States. *Petersburg*, on the Appomatox, twenty-five miles south of Richmond, carries on an extensive trade with the interior in tobacco, cotton, and wheat: population, 8,322. *Lynchburg*, on James River, 125 miles above Richmond, a thriving inland town, which trades chiefly in tobacco: population, 4,157. *Fredericksburg*, on the Rappahannock, 105 miles from the Chesapeake, trades chiefly in flour and wheat: population, 3,307. Opposite to it is *Falmouth*: population, 500. Beyond the Blue Ridge the principal towns are *Winchester*, in the northern part of the Shenandoah valley: population about 4,000; and *Staunton*, in the middle of it: population, 2,000. Beyond the Alleghany is *Wheeling*, on the Ohio, which has a brisk trade on the river, and contains some thriving manufactories: population, 5,221; and *Abingdon*, in the south-west part of the State: population, 1,000.

The State has five collegiate institutions. 1. The *University of Virginia* is endowed by the State, and its visitors are appointed by the executive. It was established through the exertions of Mr. Jefferson. The plan of the buildings, and the system of honours and discipline, are in some respects new, and are now in a course of probation. It is situated near Charlottesville, has nine professors, and a good library of 8,000 volumes. 2. *William and Mary College*, in Williamsburg, the seat of government before the revolution: it has five professors, and a library of 4,100 volumes. 3. *Hampden Sydney College*, in the county of Prince Edward, has four professors, and its libraries contain 8,200 volumes. 4. *Randolph Macon College*, in Brunswick county, recently established by the Methodists, has four professors: these are all in the eastern division of the State. 5. *Washington College*, in Rockbridge county, has four professors, and a library of 1,500 volumes. This State has a public fund

for education, amounting to 1,590,823 dollars, of which 45,000 dollars are annually appropriated to the instruction of poor children. There is a theological seminary near Alexandria, established by Episcopalians; and another at Hampden Sydney College, by Presbyterians. The prevailing religious sects are Baptists, Presbyterians, Methodists, and Episcopalians.

The legislature consists of a Senate of 32 members, and a House of Delegates of 134 members. The members of both houses are apportioned by the constitution among the four great natural divisions which have been mentioned. The ordinary revenue of the State is about 450,000 dollars.

The first English settlement in North America was made at James Town, on the north side of James River, in 1607. The site proving unsuitable, was afterwards abandoned, and scarce a vestige of the former town now remains. In May, 1776, a republican constitution was formed, which, in 1830, was entirely remodelled.

THE SOUTHERN STATES.—II. NORTH CAROLINA

Is bounded *on the north* by a line beginning on the Atlantic in 36°. 32'. N. lat., and running a little north of west 330 miles, by which this State is separated from Virginia: *on the north-west* by a line running along the Iron Mountains, which separate it from Tennessee, 200 miles: *on the south* by the thirty-fifth parallel, which separates it from Georgia, 76 miles: *on the south and south-east* by an irregular line to the Atlantic, which separates it from South Carolina, 308 miles: *on the south-east and north-east* by the Atlantic, from the southern angle of the State to Cape Hatteras, 200 miles, and thence to the Virginia line, 95 miles. The area is 49,500 square miles.

Along the whole coast is a chain of sandy islands, which form, with the main land, a continuous line of sounds of various breadths. In this chain are three capes, of which the most prominent, as well as the most northerly and easterly, is Cape Hatteras; the next is Cape Look-out, and the most southerly is Cape Fear. By far the largest of these sounds are those of *Pamlico* and *Albemarle*. The former is to the west of Cape Hatteras, extends eighty miles from north-east to south-west, and is from twenty to thirty miles in width. It receives Tar River and the Neuse at its western extremity, communicates with the ocean by Ocrocoke Inlet, and with Albemarle Sound by the channels on each side of Roanoke Island. It was this part of America which first received the name of Virginia: it was on Roanoke island that the expedition sent out by Sir Walter Raleigh in 1585 made the first attempt to establish a colony; and the settlers, on returning to England in the following year, are said to have introduced the use of tobacco into England. *Albemarle Sound* is about sixty miles long from east to west and from five to fifteen miles wide. At its western extremity it receives the Chowan and Roanoke rivers, of which, indeed, it may be almost re-

garded as the continuation; through Currituck Sound, which stretches to the north, and its inlets, it communicates with the Atlantic. There is a continual succession of these inlets between the long sandy islands or reefs which skirt the coast, very few of which admit the passage of sea vessels; and some which were formerly deep enough for this purpose have been since closed by the sands of the ocean. It is owing to this shallowness of its maritime waters, and the want of accessible harbours, that the navigation of this State is confined to small vessels, and that the citizens are compelled to seek a market for their surplus products in Virginia and South Carolina.

The Blue Ridge and the range of mountains east of it traverse this State throughout, and, as in Virginia, the former run in a continuous line; but the latter appear in detached parts of greater or less length, and sometimes in single mountains. The *Pilot Mountain** (or *Mount Ararat*), is in this range. It is a solitary peak, 1551 feet high, in the form of a truncated cone, from the summit of which an almost perpendicular cylindrical pinnacle rises to the height of 214 feet. This natural column is ascended with difficulty, partly by the aid of a ladder, and partly by a path which winds round its steep and rocky sides. It terminates in a flat surface, covered with stunted trees and shrubs, and equal in area to about half an acre. The great distance at which it serves as a beacon to the traveller has suggested its name. Further west, on the boundary line, is the range called the *Iron Mountains*; a part is also called the *Stone Mountains*, and a part the *Smoky Mountains*, which seem to be a continuation of what is called the North Mountain in Virginia. This range is continuous through the State, or nearly so, but has a less elevation than the Blue Ridge.

The *Chowan*, the most northerly river, is formed of the Nottoway and Meherrin, which unite soon after they enter this State from Virginia. It flows to the south-east about 50 miles to the head of Albemarle Sound, and is navigable for sea vessels to Murfresborough, on the Meherrin, 10 miles above the confluence of the two rivers. The *Roanoke*, already mentioned, is navigable for small vessels to Weldon, the head of tide water, a distance, by the very tortuous course of the river, of 150 miles. The *Tar*, or *Pamlico River*, which rises near the northern boundary, falls into Pamlico Sound, after a south-easterly course of 200 miles. It affords 9 feet water to Washington, 30 miles, and boat navigation to

* Many of the mountains and water-courses in America have two names: one by geographers and professed explorers, and the other by the early settlers and hunters—the name first given by one of the parties being unknown to the other; and it is often long before either becomes general.

The same remark applies to the orthography of their names. Thus, the river *St. Illa*, of Georgia, is sometimes written *Santilla*. *Okefenoko* swamp is *Okefenokau*, *Okefenocan*; and *Ocklockney* river, in Florida, is *Ochlochonne*, &c. *Mississippi*, *Appalachian*, &c., are sometimes written one way and sometimes another; many writers dropping one *p* in both words.

Portsmouth, 50 miles further. The *Neuse* falls into the same sound after a similar course of 200 miles. It is navigable for small vessels to Newbern, 40 miles. *Cape Fear River* is the largest in the State. After a south-east course of about 300 miles it falls into the ocean near the cape from which it derives its name, and which is the east angle of Smith's Island. For about a third of its course it is called *Wilmington River*. It affords 11 feet water to Wilmington, 34 miles, and boat navigation to Fayetteville, 95 miles further. West of this river is the *Pedee*, which flows entirely across this State into South Carolina, where it is called the *Pedee*. Still further west is the *Catawba*, which, rising in the Blue Ridge, flows first to the east, and then to the south, to South Carolina. The *Tennessee*, and some of its branches, take their rise in the western part of this State.

North Carolina may be divided into three distinct zones, which differ in soil, elevation, and climate. The first, or alluvial belt, is similar to that of Virginia, except that it is wider. The eastern part of it abounds in low swampy land, which is covered with cypress and pine, and some of which is very fertile. The rest of this belt is sandy and steril, except on the streams. The belt above has an undulating surface, and some good land, but it is thin and sandy until the middle of the State is passed. The mountainous district and the intervening valleys have the same character here as in Virginia. Iron ore abounds in this district; lead and plumbago have also been found. But the most important mineral of the State is gold. About thirty years ago some lumps of this metal were found, one of which weighed 28 lbs. avoirdupois, and further search being then made, it was discovered in all the adjoining country, but in such small quantities as not to repay the labour of separating it from the rock in which it was found. Within a few years, however, since the inhabitants have become more skilled in mining and metallurgy, and have found the metal in extensive veins of quartz, the mining business has been prosecuted with more spirit, and has yielded a greater profit. The tract of country in which gold is thus found, in greater or less abundance, runs parallel to the mountain ranges, through the great belt of primitive rock; it is in some places more than 40 miles wide, and has been traced to the north nearly across Virginia, and to the south through South Carolina, Georgia, and Alabama. The quantity annually extracted has been estimated by some at several millions, but, as the amount which has found its way to the mint has never reached half a million, the whole annual product has probably been much short of a million, and the quantity has been steadily declining since 1833. It remains to be seen whether the decline has been owing to temporary or permanent causes. A medicinal spring in Buncomb county, beyond the Blue Ridge, has been greatly resorted to of late years for its temperate summer climate, its picturesque scenery, and the luxury of its warm baths.

The climate of North Carolina is as various as that of Virginia, but the proportion of unhealthy country is larger in the former state. The western half of the State is as healthy as most other parts of the Union. North Carolina contains 63 counties. Its population is 737,987, of which 245,601 are slaves, and 19,543 free persons of colour. The increase in ten years was $15\frac{1}{2}$ per cent. The agriculture of the State in the country near the coast is limited to the cultivation of maize, cotton, and, in the most southern parts, rice. In the midland country it is maize, wheat, and cotton; to which may be added tobacco, in the northern part. In the country west of the Blue Ridge the people are principally graziers. From the physical difficulties of the navigation it is the least commercial of all the Atlantic States. The shipping is 32,143 tons, and the annual exports to foreign countries 433,035 dollars in value. These consist of cotton, tobacco, wheat, maize, lumber, tar, pitch and turpentine; but the greater part, being sent to market overland or coastwise, do not appear in the custom-house returns. The pines of the alluvial country are peculiarly resinous, and the manufacture of "naval stores" is one of the principal employments of that region. Other manufactures, except of the household kind, have made little progress here. The State, in June, 1834, had 3 banks, which have 10 branches, and capital amounting to 1,824,000 dollars. The canals are the *North-west Canal*, which connects Currituck Sound with the Dismal Swamp Canal, 6 miles; about 10 miles of the last-mentioned canal are in this State. The *Roanoke Canal*, along the Falls at Weldon, is 12 miles long. There are some minor improvements of the navigation in the other rivers. A railroad from Weldon to Wilmington, 161 miles, was to be completed in the course of the last year, 1839.

The State is about to drain the very fertile lands of Alligator Swamp, amounting to 75,000 acres, after which it is expected that it will undertake the draining of the other rich swamps in the same part of the State, the quantity of which is estimated at from 250,000 to 500,000 acres.

Raleigh, in the centre of the State, is the seat of government. Being unsupported by either manufactures or trade, it has long been at a stand, and of late it has even declined. This place possessed a fine statue of Washington by Canova, but the fire, which lately burnt the State House, seriously and irreparably injured it. Population about 2000. *Newbern*, on the Neuse, is the largest town in the State. It trades in lumber, tar, pitch, turpentine and grain. Population 3776. *Fayetteville*, on Cape Fear River, carries on an extensive traffic with the interior in the staple products of the middle country. Population 2868. *Wilmington*, lower down, on the same river, is the seat of the foreign commerce. Population about 3000. There is no other town in the State which contains 2500 inhabitants. Those which most nearly approach this number are *Edenton*, on the Chowan; *Washington*, on Tar River; *Salisbury*, on the Yadkin; and *Charlotte*, in Mecklenburg

county, where the general government has lately established a mint for the coinage of gold.

The *University of North Carolina*, at Chapel Hill, has seven instructors, and its libraries contain 5000 volumes. A number of academies, both for the instruction of males and of females, have been established within the present century. The State has a small literary fund; but it is not yet sufficient to give any efficient support to popular education. The prevailing religious sects are Baptists, Presbyterians, Methodists, and Episcopalians.

The General Assembly consists of a Senate of 50 members, and a House of Commons of 120 members. The ordinary expense of the government is about 12,000 dollars annually.

Sir Walter Raleigh's attempt at colonisation on Albemarle Sound in 1585 having failed, the first permanent settlement of Carolina was made in 1645. In 1662 it was granted by Charles II. to Lord Clarendon and others. In 1719 it was divided into the two colonies of North and South Carolina, and placed under the government of the Crown. The first constitution of North Carolina was adopted in December, 1776. It has been since revised and amended.

THE SOUTHERN STATES.—III. SOUTH CAROLINA

Is bounded on the *north-east* and *north* by an irregular line from the Atlantic to Chatuga River, 308 miles, by which it is separated from North Carolina: on the *north-west* by that river to the Savanna, 25 miles: on the *south-west* by the Savanna to the Atlantic, 250 miles; * by which two last lines it is separated from Georgia: on the *south-east* by the Atlantic Ocean, from the mouth of the Savanna to the North Carolina line, 190 miles. The area is 31,750 square miles.

The coast is everywhere low and flat, and, except on Long Bay, in the northern part, is throughout its whole extent intersected by creeks and inlets, which form numerous islands. Some of these islands present a bank of sand to the ocean 15 or 20 feet high, but a low level on the side next the land. The coast has no good harbours, except those of Charleston and Beaufort.

The only mountains in this State are those which traverse the north-west corner, and which are a continuation of the Blue Ridge. Though the range is less continuous and elevated here, it occasionally presents summits of considerable height in its detached parts, as the *Table Mountain*, *Ocloney*, *Glassy Mountain*, and some others. The highest of them are about 3,500 feet above the level of the sea. The more eastern range, corresponding to the south-west mountains of Virginia, is still less marked here than in North Carolina, and manifests itself only by an irregular succession of hills, and a few insulated mountains, of which *King's*

* This estimate does not include the windings of the river.

Mountain, on the northern boundary, and *Paris's Mountain*, near Greenville, are the most elevated.

The *Pedee*, *Santee*, and *Savanna*, have been already described. The *Pedee* receives several considerable branches, as *Lynch's Creek*, from the south-west; *Little Pedee*, from the north; the *Waccaman*, from the north and east; and *Black River* from the south-west. It is navigable for small vessels 130 miles. The *Santee* is navigable for vessels of 70 tons, to the confluence of the *Wateree* and *Congaree*, 100 miles, and thence up the *Wateree* to Camden, 40 miles, and up the *Congaree*, 40 miles, to Granby, where the river branches into *Broad River* from the north, and into *Saluda* from the north-west, both of which take their rise in the Blue Ridge. *Ashley* and *Cooper Rivers* are two short, but wide and navigable streams, which unite at Charleston. The *Edisto* falls into the sea about 30 miles south of Charleston, after a course of about 160 miles by either of its two branches. It is navigable for boats when the river is full. The *Savanna* is navigable for ships to the town of *Savanna*, 17 miles, and for boats of 70 tons to *Augusta*, 340 miles; and for boats of 30 tons to *Vienna*, 60 miles further. This river receives no large tributary on the Carolina side. The largest is *Keowee*, towards its head, above which the river takes the name of *Tugaloo*.

This State, like North Carolina, may be divided into three transverse belts, which range like the coast and the mountains, to the south-west. The first, or alluvial belt, though in the more elevated parts it is a mere mass of sand, so steril as to have acquired the name of "pine barren," is very fertile on the rivers and swamps. It is on these last that rice is cultivated. The swamps produce, in their natural state, forest trees in great variety and luxuriance; but the intervening highlands are covered with the long-leaved pine. On the islands along the coast is grown that valuable species of cotton which has thence acquired the name of "*Sea-island*." This first belt extends about 80 miles from the coast. The *Middle Country* is characterised by its *sand-hills*, which sometimes rise to the height of from 150 to 200 feet. They are utterly steril, and it is only the swampy lands between them, or the margins of the streams, that are cultivated. This belt is from 20 to 40 miles wide, and it contains a smaller proportion of productive land than the preceding. Further west begins the upper country, from what is called *The Ridge*, which, rising abruptly from the sandy region east of it, continues on the same level, or with only an imperceptible ascent, to the mountains. Here rocks and stones first make their appearance; the pine has given place to the oak, hickory, mulberry, walnut, and other forest trees; the country assumes a pleasing variety of surface, and gradually becomes more hilly as it proceeds to the west, until it reaches the mountains. There is a great diversity of climate in this State, both as to temperature and salubrity. Along the coast the winters are so mild that snow is seldom seen, and many of the tropical fruits

are raised in the open air, while in the upper country the cold is nearly as great as in the eastern part of Virginia. This region too is a very healthy one. Of the alluvial country, Charleston is considered the most healthy part, and of the middle country, the sand-hills.

The mountainous district seems to contain the same minerals as have been found north of it—iron, lead, and copper; to the east of it the gold region traverses the State, though it has hitherto yielded little of the metal, which is obtained solely by the process of “washing.”

South Carolina is divided into 29 districts. The population is 581,185, of which 315,40 are slaves, and 7,921 free persons of colour; the increase in ten years has been $15\frac{1}{2}$ per cent. It is the only State, except Louisiana, in which the slaves are more numerous than the free persons. The people, except in Charleston, are nearly all planters or farmers. The staple products of the lower country are rice and cotton: wheat grows well in the upper country, but the culture of cotton is deemed so much more profitable that the State does not produce wheat enough for its own consumption. Indigo and tobacco were both formerly raised for market, but they have been superseded by cotton. The exports of this State are increased by part of the products both of North Carolina and Georgia. They annually amount to upwards of 8,000,000 dollars, and consist almost wholly of cotton and rice. There are few manufactures in this State; the inhabitants, especially in the lower and middle country, being dependent on Europe or the northern States for manufactured articles of the simplest kind. The shipping of the State amounts to 15,561 tons. The large export trade is carried on chiefly in northern vessels. The canals are the *Santee Canal*, on which the produce, which is transported down the Santee, finds its way to Charleston, length 22 miles. The *Winyaw Canal* unites the Santee with Winyaw Bay, length 10 miles. There are also short canals on the Saluda and Broad Rivers to facilitate the navigation to Columbia. The longest railroad at present in the United States is the one from Charleston to Hamburg, on the Savanna; its length is 135 miles. The State has 12 banks, including the branch banks; and their united capitals amount to 8,630,000 dollars.

Charleston is the chief place of export and import for the State. It has a capacious and well-sheltered harbour, but a bar at its mouth makes it difficult of access. It is regular and well-built. The public edifices, both in their number and style of architecture, indicate an opulent and refined community, and being the great centre of attraction from the neighbouring country, it is one of the most delightful winter residences in the Union. Its population is 30,289. *Columbia*, on the Congaree, is the seat of government; it has little trade, and contains 3310 inhabitants. *George Town*, on Winyaw Bay, 13 miles from the sea, has a brisk trade: population about 2000. *Beaufort*, on Port Royal Island, has the best harbour in the State, though little commerce:

population about 1000. *Camden*, on the Waterce, has some trade with the interior: population about 1500.

The State has two colleges; one at Columbia, supported by the State, has commonly nine instructors, and a library of 10,000 volumes. The other at Charleston, is supported chiefly by the fees of tuition. It has seven instructors, and a library of 4000 volumes. There is also a medical school in Charleston, and a theological seminary for Presbyterians in Columbia. The State appropriates 40,000 dollars annually to the support of free schools. The prevailing sects in the State are Baptists, Presbyterians, Methodists, and Episcopalians.

The legislature consists of 45 senators, and 124 representatives, chosen biennially. The annual revenue is about 270,000 dollars.

The first settlement in South Carolina was made at Port Royal, in 1670, and for some time the colony was subjected to the plan of government prepared for the proprietors by John Locke, but which was found to be suited neither to the taste nor circumstances of the people for whom it was made. The present constitution was adopted in 1776, and has been since twice amended. Like that of Virginia of 1830, it fixes the proportions of legislative power which the upper and lower country shall respectively possess.

THE SOUTHERN STATES.—IV. GEORGIA.

Bounded on the *north-east* by the Savannah, and its Tugaloo branch, 250 miles to the Chatuga river; and on the *south-east* by the Chatuga, 25 miles, by which streams it is separated from South Carolina: on the *north* by the 35th parallel, which separates it from North Carolina 76 miles, and from Tennessee 70 miles: on the *west* by the State of Alabama, from which it is separated by a right line running a little east of south to the Chatahoochee, 150 miles, and by that river 130 miles direct: and by *West Florida*, from which it is separated by the same river, to its confluence with Flint River, 20 miles: on the *south* by a right line running nearly east to St. Mary's River, 165 miles, and by that river running first south 17 miles, then bending to the north 30 miles, and to the east, to the Atlantic, 30 miles: on the *east* by the Atlantic, from the St. Mary's to the Savannah, 105 miles. The area is 61,500 square miles.

The coast of Georgia, like that of South Carolina, is intersected by inlets and marshy creeks, which form a continuous succession of small low islands, most of which are very fertile, and produce cotton of the finest quality. The larger inlets between the islands are called sounds, and are navigable for small vessels. Most of the ranges of the Appalachian chain cross the north-west corner of this State, but with a considerable diminution of height. From one of these mountains, the Racoon, in the north-west corner of the State, issues a subterraneous stream, which is called *Nickajack* creek: its course has been traced

through a cave, in a canoe, for nearly a mile and a half; its width varies from 30 to 60 feet, but the cave is much wider, and its mouth is 80 feet wide and 50 feet high.

Besides the *Savannah*, which is common to this State and South Carolina, the rivers of Georgia are the *Ogeechee*, which, after a course of about 200 miles, falls into the sea, 18 miles south of the Savannah. The *Altamaha*, already noticed, is navigable either by the *Oconee* or *Oakmulgee* branch, for boats of 30 tons, 300 miles. The *Saint Illa* falls into the sea about 20 miles north of St. Mary's, after a course of about 100 miles. The *St. Mary's*, a navigable but very winding river, is 105 miles long. It has a good harbour at its mouth, but only 13 feet water on the bar, at its entrance. *Flint River*, which rises near the Blue Ridge, and flowing first to the south-east and then to the south-west, for 250 miles, joins the Chatahoochee, at the south-west corner of the State, and forms the *Appalachicola*. The *Chatahoochee* has a south-west course of more than 200 miles in this State, before it becomes common to it with Alabama. It has been mentioned among the great rivers of the United States.

The soil of Georgia may also be distributed into three divisions: first, that of the islands, and the margin of the main land, which is marshy and generally rich, to which succeed the *pine barrens*, also interspersed with swamps. The second division is that of the sand-hills, which are intermixed with more fertile land. The third is more elevated, dry, and productive; at first undulating, it gradually becomes more hilly towards the mountains. Of the swamps, that of *Okefenoko*, in the south-east part of the State, is the most considerable. It has a circumference of 180 miles, and during wet seasons assumes the appearance of a lake. It extends partly into Florida. The climate of Georgia is nearly the same as that of South Carolina, except that the winters are yet milder near the coast, and that tropical productions come to greater perfection. The most healthy parts of the State are in the mountainous district, and next to that the sea islands. *Iron, copper*, and other minerals, have been found in the north-western part of the State, but the mines have not yet been wrought. The gold region passes through the Cherokee lands in this State, where the metal is supposed to be unusually abundant. For the three years from 1834 to 1836 inclusive Georgia furnished more gold to the mint than any other State.

Georgia contains 90 counties, including those laid off in the Cherokee country. The population is 516,823, of which 217,531 are slaves, and 2,486 free persons of colour. The increase in ten years was $51\frac{1}{2}$ per cent. The population is almost wholly agricultural. In the rich swamps of the alluvial country they cultivate rice; in the dry lands, the black-seed cotton. The sugar-cane is now cultivated in ten counties of the State, most of them in the interior; and as the plant seems more and more to adapt itself to the climate its culture will probably extend,

especially, when the price of sugar shall rise, and that of cotton decline. The culture of indigo has lately increased. In almost every part of the State cotton and maize are cultivated, and both wheat and tobacco in the upper country. The manufactures are comparatively few, except those of a household character, in the north-western part of the State. The exports are cotton, rice, timber and maize. They amounted in 1833 to 6,270,040 dollars. The imports direct from foreign countries amounted only to 318,990 dollars. The shipping is 8651 tons. The State in January, 1834, had 32 banks, including branches, whose capitals amount to 11,438,000 dollars.

The *Savannah and Ogeechee canal* is 16 miles in length. A railroad extends from the Alatomaha to Brunswick, near the coast, 12 miles.

Milledgeville is the seat of government. Its position, on the south bank of the Oconee, is nearly central to the State. It has a boat navigation, but little trade. Population, 1599. *Savanna*, on the west bank of the Savannah river, 17 miles from the ocean, is the largest town in the State. Its plan is regular, and the buildings good. It has a good ship navigation, and owns most of the shipping of the State. The population is 7,303. *Augusta*, on the same river, 340 miles above, by the windings of the river, but 127 in a straight line, has an extensive trade with the interior. Population, 6,696. *Macon*, on the Oakmulgee, about 30 miles south-west of Milledgeville, has 2,609 inhabitants. *Darien*, on the Alatomaha, 12 miles from its mouth, is a very thriving town. The river admits sea vessels of 12 feet draught, and has steam-boat navigation to Milledgeville, near 200 miles.

The *University of Georgia*, or Franklin College, at Athens, on the Oconee, has a president and eight instructors. Its libraries contain 6,200 volumes. There is a medical college at Augusta, with six professors. The State has a school fund of 500,000 dollars; one half of the revenue from which is divided among the incorporated academies, and the other half is distributed among the counties for the education of the poor. The Baptists and Methodists are the prevailing sects in this State, and next to these, are the Presbyterians.

The General Assembly consists of a senate of 90 members, and a house of representatives of 185 members, all chosen annually. Georgia was the last settled of all the Atlantic States. The first settlement was made by General Oglethorpe in 1732. It became a royal government in 1752. Its first republican constitution was formed in 1777; the second in 1785, and the present one in 1798. The annual taxes do not exceed 133,000 dollars, as the State has a fund of more than 2,000,000 dollars, derived from its public lands. In 1802 it ceded to the United States all the land lying west of the Chatahoochee to the Mississippi, which now constitutes the States of Alabama and Mississippi.

The Cherokee Indians, amounting to about 15,000 souls, including above 1,200 negro slaves, lately occupied the north-west corner of this

State. They were more advanced in civilisation than any of the Aborigines, and they claimed the right of a separate government on the faith of treaties made with the United States. This right, however, the State of Georgia denied, relying on its compact with the United States, and a subsequent treaty made by the general government and the Cherokees. The controversy having been adjusted by a recent treaty with the United States, the principal part of the nation have removed, or are about to remove, to the land provided for them on the west of the Mississippi. Many of these Indians are industrious planters and farmers, or mechanics. They have an organised government of the republican form; have invented (the inventor was a Cherokee of the name of Guess) an alphabet for their own language, consisting of 80 syllabic characters; and a newspaper, partly in this language and character, was printed at *New Echota* on the Coosa. The country claimed by them, and lately in their undisturbed possession, contains about 7,000 square miles. The *Creek* Indians occupied the western part of the State, south of the Cherokees, but they have sold their lands and removed to the west of the Mississippi.

FLORIDA, A TERRITORY,

Is bounded on the north by St. Mary's River, 82 miles in a right line running nearly west to the confluence of the Chatahoochee and Flint River, 150 miles; on the east, up the Chatahoochee to the 35th parallel, 25 miles, by which rivers and line it is separated from Georgia: on the south, again, by that parallel to the Perdido, 155 miles, by which it is separated from the State of Alabama: on the west, again, by the Perdido to the Mexican Gulf, 60 miles: on the south and west by the Gulf of Mexico to Cape Sable, 600 miles; on the south-east and east by the Atlantic to St. Mary's, about 450 miles. Its area is 55,680 square miles.

This territory once consisted of two divisions, East and West Florida, which are still used as local designations; the former comprehending the peninsula, and the latter the belt, which stretches along the Gulf to the south of Georgia and Alabama.

Numerous islands are scattered along the whole coast of Florida, none of which have yet acquired importance, except *Key West*, near the southern extremity, in consequence of its being a naval station. It lies about 60 miles south-west of Cape Sable, is 7 miles long and 2 broad, is very low and flat, and has an excellent harbour. It is one of a long chain, called the Florida Keys, which stretch in different groups for more than 100 miles to the south and west of the Florida Cape. Between most of the islands skirting the coast are channels or inlets to the narrow sounds which they inclose. There are also several spacious bays, which furnish good harbours. The best of these are at St. Augustine

and Tampa Bay in East Florida, and the bays of Appalachicola, St. Andrews, Ochlocknee, and Pensacola in West Florida.

The *St. Mary's* is common to East Florida and Georgia. The *St. John's River* rises near the middle of the peninsula, and, running to the north through nearly the whole of its course, turns to the east, and falls into the Atlantic, 30 miles south of St. Mary's. The country through which it passes being flat and marshy, it expands occasionally into lakes; of which Lake George, the largest, is 20 miles long and 12 broad. The river is navigable for small vessels to this lake, 107 miles from its mouth. The *Amarura* takes its rise from Lake Eustis, and flowing first to the north, and then to the west, falls into the Gulf about 50 miles north of Tampa Bay. The *Surannee* rises in Georgia, and flowing south more than 100 miles across West Florida, empties into Vacasausa Bay. It receives the *Withlacoochee* river near the Georgia line, and before the junction its main branch is called *Little St. John's*. The *Ochlocknee* has a similar course, and falls into the bay of the same name, at the head of Appalachie Bay. This bay also receives the *Appalachicola*, already described. It is navigable throughout its whole course through West Florida for sea vessels. The *Choctaw*, called also the *Choctawhatchee*, rises in Alabama, and, after a course south and west for about 150 miles, falls into a bay of the same name. The *Escambia* also rises in Alabama, and falls into the Bay of Pensacola. All these last-mentioned streams have a course across West Florida of about 60 or 70 miles. *Indian River* is a long narrow arm of the sea, or rather a sound, on the eastern side of the peninsula, and running nearly parallel to the coast. Between this inlet and the ocean is Cape Canaveral, about the middle of the eastern coast of the peninsula, and in $28^{\circ} 15'$ N. lat.

There are numerous lakes both in East and West Florida, some of which are of extraordinary depth, and seem to receive perennial supplies from subterraneous currents and springs. This is rendered more probable by the fact that fountains are occasionally seen gushing out from the earth, and sometimes the streams they discharge are large enough to become at once entitled to the name of rivers. This is the case with the *Wakulla*, 12 miles from Talahassee, which is navigable for boats immediately below the fountain. *Mickasuckee* Lake, 15 miles north-east of Talahassee, is 12 miles long. To the north and west of the same town, and nearer to it, are several other lakes, of which the most considerable are lakes *Jackson* and *Imonia*, about eight or ten miles long. In East Florida are lakes *George*, *Eustis*, *Simmons*, and *Macuco*, the largest and most southerly of all, besides many smaller ones.

The whole of Florida is low, and almost an unvarying level. The only exception is in that part of the peninsula which is comprehended between the Georgia boundary and a line drawn from Tampa Bay to Cape Canaveral. A part of this region has a waving surface, and in

the places is even hilly. A ridge running through the middle of it, diminishing in height as it proceeds to the south, divides the waters of the Atlantic from those of the Gulf. This ridge, by accurate measurement, is 152 feet above the level of the sea, at the head of St. Mary's river, 87 feet between the head waters of the Amaxura and the Ocklawaha, the western branch of the St. John's, and further south it finally disappears. The whole of this division is one great forest, principally of pine, interspersed with lakes, ponds, and swamps. The soil is generally sand, but there occasionally appear tracts mixed with clay, which here as well as in Georgia and South Carolina, are called "hammocks." They are covered in their natural state with cypress, dogwood, magnolia and other deciduous trees, and are very productive. Most of the peninsula, south of the above line, is little better than continuous swamp, forbidding, during the rainy seasons, any land passage between the gulf and the Atlantic. The southern extremity of the peninsula is, however, very rocky, and is covered with mastic, gumvitæ, gumelemy, wild fig and mangrove. The whole of East Florida is peculiarly rich in its vegetable productions. The swamps abound with cypress, and the hammock lands with the palmetto, live oak, logwood, mahogany, and other "cabinet wood." The lakes and bayous," says Mr. Flint, "are covered with a most curious growth of aquatic plants, called *pistia stratiotes*. They somewhat resemble the water leek, and have a beautiful elliptical leaf. It is commonly, but incorrectly, reported to vegetate on the surface of the water. When the roots of thousands of these plants have twined together, so as to form a large and compact surface, the mass is often drifted by the wind or current to a considerable distance. This is the appearance, no doubt, which has given origin to the story of floating islands in the waters of this country. This singular and beautiful vegetation spreads a verdant plain over the waters for a great extent. Under it the fishes sport, and the alligators pursue their unwieldy gambols, and multitudes of water fowls are seen pattering their bills among the leaves." Both the soil and climate of much of this country are adapted to most tropical plants and fruits; oranges nowhere come to greater perfection. Wherever the soil is sufficiently rich, the sugar-cane may be cultivated. The cochineal cactus is indigenous. The coffee tree, it is said, finds here a congenial climate. But by far the larger part of East Florida is unfit for cultivation, and is, perhaps, always destined to derive its chief value from its timber. That part of Florida which stretches along the northern shores of the Gulf is also quite level, but much of it rests on a bed of calcareous rock, which is also the case with a large part of the western side of the peninsula, in the cavities of which the streams often find a passage some distance beneath the surface. The soil here is far better than in East Florida, and produces cotton, sugar, rice, indigo, and maize. The minerals, as yet known to exist in Florida, are coal and iron. The

climate is excessively sultry, but every part of the coast is refreshed by the sea breeze. South of 28° N. lat. snow is unknown, and frost is extremely rare. The territory is divided into 20 counties. The population is 34,723, of which 15,510 are slaves. *Pensacola* is situated on the large bay of the same name, and affords the best harbour in the territory. It is a naval station of the United States, and contains between 2000 and 3000 inhabitants. *Tallahassee*, nearly equidistant from Pensacola and the Atlantic, and 30 miles from the Gulf, is the seat of government. *St. Mark's*, near the Apalache Bay, and at the junction of the Wakulla and the St. Mark's, is its nearest seaport. *Tallahassee* contains about 1200 inhabitants. *St. Augustine*, in East Florida, near the mouth of the St. John, contains about 2000 inhabitants. The trade of Florida is yet inconsiderable. Its exports are chiefly cotton, sugar, oranges, and timber, principally live oak, to the government navy-yards. It had in June, 1834, six banks, of which the capitals amount to 100,000 dollars. A canal was some time since proposed to be cut across the peninsula, large enough for the passage of ships, but, on a survey by skilful engineers, the work was pronounced impracticable. But a canal for boats is not exposed to the same objections, and such a communication would greatly facilitate the intercourse by water between the Mississippi country and the Atlantic cities.

Florida, like the other territories, has a governor appointed by the President of the United States, and a legislative council chosen by the people. It has the privilege of sending a delegate to Congress to sustain the interests of the territory.

This country was first settled by the Spaniards in 1524. Having been taken by the French, they attempted to make a settlement, but afterwards abandoned it. In 1763 it was ceded by the French to Great Britain, but was reconquered by the Spaniards in 1781, and in 1821 it was ceded by Spain to the United States. The *Perdido* was its western boundary until Spain regained possession of it, when she extended the boundary to the Mississippi; but, after the purchase of Louisiana in 1803, the United States claimed the country west of the *Perdido*, and in 1811-12 took possession of it.

THE SOUTH-WESTERN STATES.—I. ALABAMA

Is bounded on the *east* by the *Perdido* Bay and River, from the Gulf to the 31st parallel, 60 miles: on the *south* by that parallel to the *Chatahoochee*, 150 miles, which separates it from West Florida: on the *east*, again, by the *Chatahoochee* 143 miles, and a right line west of north to the Tennessee boundary, 150 miles, which separates it from Georgia: on the *north* by the 35th parallel to the Tennessee River, 153 miles, by which it is separated from the State of Tennessee: on the *north-west* by the Tennessee, 10 miles: on the *west* by a right line running west of

th, 210 miles, and another nearly south to the Gulf, 110 miles, which lines separate it from the State of Mississippi: on the south by Gulf to the mouth of Perdido Bay, 60 miles. The area is 52,900 square miles.

To the south of the western half of the coast, and stretching still further west, is a range of long sandy islands which form Pascagoula Bay or Sound. Of these, Massacre and Dauphin Islands, about 10 miles long each, with some smaller ones, are within the limits of Alabama. The *Bay of Mobile*, nearly in the middle of the coast line, has its entrance between Dauphin Island and Mobile Point. It extends to the north more than 10 miles, and eastward from Mobile Point, about 25 miles, to the mouth of *Bonsecours Bay*, from whence it narrows, as it ascends, to the north, where it receives the mouths of Mobile River, and where its width is about 7 or 8 miles. Besides its main entrance, where it has 16 feet of water, it has a passage into Pascagoula Bay, 6 feet deep.

The Appalachian chain enters this State at its north-east corner from Georgia and Tennessee, and gradually changing its course from the south-west to the west, and diminishing in height, may be said to terminate here.

The rivers of Alabama are the *Chatahoochee*, which, through half its course, is common to this State and Georgia. It is navigable for steam-boats to Columbia in Georgia, 300 miles. The *Conecuh*, the main branch of the Escambia, has a south-west course of upwards of 150 miles in this State. But the *Mobile* and its branches drain the principal part of the State. The *Alabama* branch is formed of the *Tallapoosa* and *Coosa*, which unite at Coosanda, 259 miles above its mouth, where it influences with the *Tombigbee*. The *Tallapoosa* rises in Georgia and flows, in that State and Alabama, south of south-west about 150 miles, and then to the west about 30 miles to the point of confluence with the *Coosa*. The *Coosa*, the larger branch, rises in Georgia and Tennessee, and has a general course, first south-south-west and then south-west, of 300 miles. About fifty miles west of the *Coosa*, the *Cahawba* flows to the south, and, after a course of 120 miles, falls into the *Alabama* at the village of Cahawba. The *Tombigbee* rises in the State of Mississippi, and after a south-south-east course of 110 miles enters Alabama; continuing its course 60 miles further, it receives the *Black Warrior*, after which its general course is due south to its junction with the *Alabama*. It is navigable for steam-boats to Columbus, in Mississippi, 306 miles from its mouth. The *Black Warrior* and *Tuscaloosa* has its sources in the ridge which divides the waters of the *Mobile* from those of the *Tennessee*. Its two principal branches, the *Culberry River* to the west, and *Locust Fork* to the east, unite 50 miles above Tuscaloosa, and 30 miles above its junction with the *Tombigbee*. It is navigable for steam-boats to Tuscaloosa. The *Tennessee* enters this State at its north-east angle from the north-east, and

flowing first south-west and then west-north-west, leaves the State at its north-west corner, after a course of about 200 miles in Alabama.

The northern part of the State, which is drained by the Tennessee, though in part hilly, and even mountainous, is very fertile. The rest of the State, comprehending more than three-fourths of it, has a general slope to the south, and may be divided into two parts: the upper, extending to within 60 miles of the coast, has an undulating surface, and in general a good soil, especially on the rivers; the lower division is level, sandy, and, except on the margins of the rivers, steril. On all the rivers there is a belt of very rich alluvial land, a part of which is swamp; then succeeds a body of level land elevated 10 or 15 feet higher, which is called *interval land*, and holds a middle place between the alluvial land and the pine barren which forms the character of most of the lands in the southern part of the State. The small parallelogram lying on the gulf between West Florida and Mississippi, is a pine and cypress swamp, and, except on the banks of the Mobile, unfit for cultivation. There is a greater diversity of climate in this State than in the Atlantic States, because, the country rising higher as it proceeds to the north, to the difference of climate from latitude must be added that which arises from difference of elevation. Every part of it, however, is adapted to the culture of cotton, except the more elevated part of the mountainous district. The long moss, indicative of a warm as well as moist climate, begins in the middle of the State, 33° N. lat., the fig. below 34° N. lat., and on the gulf the sugar-cane may be raised where the soil is sufficiently rich. The middle and northern parts of the State are healthy, except in low wet situations. Iron, coal, and gold are the only valuable minerals yet found in the State, but no mines are worked.

Alabama contains 47 counties, including 11 laid off in the country lately occupied by the Indians. The population is 309,527, of which 117,549 are slaves, and 1572 are free coloured persons. The rate of increase in 10 years has been 142 per cent. The inhabitants consist mostly of planters who have migrated from the other slave-holding States, and very few are engaged in the pursuits of commerce or manufactures. The staple products are principally cotton, with a small quantity of rice and sugar. The exports amount to 4,527,961 dollars, and the shipping to 7240 tons.

A railroad from a point 10 miles below Tuscumbia to Decatur, on the left bank of the Tennessee, now in progress, is 62 miles in length. Others to connect the Tennessee and the Chatahoochee with the Alabama have been projected. A canal from the head of the Muscle Shoals in the Tennessee River to Florence, length 37, and another to connect Huntsville with the Tennessee, 16 miles long, have been commenced. There are 5 banks in the State, having capitals to the amount of 4,308,207 dollars.

Tuscaloosa, near the centre of the State, is the seat of government.

is on the banks of the Black Warrior, at the head of steamboat navigation, and 400 miles from the mouth of the Mobile, by the river. Near it is the University. The population is above 2000, and rapidly increasing. Mobile, at the mouth of the western branch of the river, and head of the bay of the same name, is the chief seat of the foreign commerce of the State, and is very thriving. Population 3,194. *Dauphin*, the only other port of entry, is on the eastern outlet of the Mobile River. *Cahawba* is at the mouth of the river of that name. *Montgomery*, 10 miles north of the Tennessee, with which it communicates by a canal, is a well-built thriving town, in the most thickly settled part of the State. *Florence*, at the foot of the Muscle Shoals, has a population of 1400. *Tuscumbia*, five miles from Florence, has 1000 inhabitants.

There is a University in Alabama, which is well endowed, and, though it commenced under favourable auspices, its functions have been suspended during the last two or three years. There is also a Methodist seminary near Florence, and a Catholic one near Mobile. The State has 24 incorporated academies. No one of the new States has so early shown itself sensible of the importance of education. The Baptists and Methodists are the most numerous sects in this State, and next to them the Presbyterians.

The senate consists at present of 30 members, and the House of representatives of 98.

This State was once comprehended within the limits of Georgia, except that part which lies on the Gulf, which was originally part of Louisiana, and then of West Florida. After the cession by Georgia to the United States, it became part of the *Mississippi Territory*. In 1817 this territory was divided, when the western part became a State, and the eastern part the territory of Alabama. The latter also became a State in 1820. There were lately Cherokees, Creek, Chickasaw and Choctaw Indians in this State, the first two in the eastern, and the last two in the western part of the State; but so many of them have been induced to emigrate to the west of the Mississippi, that their number altogether does not probably now exceed a few thousands. But should they remain, without doubt, in no distant period, all vestiges of the race will disappear by extinction or mixture with the whites.

THE SOUTH-WESTERN STATES.—II. LOUISIANA

is bounded on the east by Pearl River, from its mouth to the 31st parallel, 60 miles: on the north by that parallel from Pearl River to the Mississippi, 105 miles: on the east, again, by the Mississippi, to the 33d parallel, 235 miles; by which three lines this State is separated from the State of Mississippi: on the north, again, by the 33d parallel, which separates it from the State of Arkansas, 172 miles: on the west by a

meridional line to the Sabine, 69 miles, and by that river to the Mexican Gulf, 250 miles, by which line and river it is separated from the Mexican province of Texas; on the south and east by the Gulf to the mouth of the Pearl River, about 400 miles. The area is 49,300 square miles.

Opposite the eastern coast of this State, and north of the mouth of the Mississippi are a number of islands, of which *Chandeleur* is the principal. They are small and not rich, but being healthy, are inhabited. Along the coast west of the Mississippi, and much nearer the shore, are many islands of a different description. According to Mr. Flint they possess extraordinary fertility, and, though so near a flat marshy coast to which is but a few feet above the level of the ocean, they have an elevation of from 20 to 100 feet; future geological inquiries may explain this singularity. The most important of these islands are *Barataria*, *Thomas's*, *La Croix*, and *Ascension*.

There are many spacious bays on the coast of Louisiana. In the north-east is *Lake Borgne*,* of which the outer half lies between the State and Mississippi, and which communicates with Pascagoula Sound. It extends to the south-west more than 40 miles, and is about 15 miles wide. It seldom has more than six feet water, except in the mid-channel. *Chandeleur Bay* is to the south-east of the promontory which forms *Lake Borgne*, and is formed by the islands already mentioned. On the western-coast are *Barataria*, *Timbalier*, *Atchafalaya*, *Côte Blanche*, and *Vermilion Bays*, in all of which the water is too shallow to admit the entrance of any except small vessels. They afford, however, a safe refuge for small craft by the great extent to which some of them penetrate the country and their winding intricate channels.

The *Mississippi*, after forming the eastern boundary of the State through two degrees of latitude, passes obliquely through it in a general south-east direction, but by a very sinuous course of 334 miles. Besides the principal channel of the river, and its regular mouths into the Gulf, it has 4 regular outlets, called here *Bayous*. The first and most northern, is the *Atchafalaya* river, which leaves the Mississippi on its west side, a little below where the *Red River* enters it, and flowing to the south 200 miles, falls into the bay of the same name. The *Atchafalaya* is believed to have been the ancient bed of the *Red River*, and from its course being in the same direction as that of the *Mississippi* immediately above, it receives so much of the drift-wood of that river as to be bridged over 8 or 10 miles by what is called the *raft*, which is now covered with vegetation. The next outlet is on the east-side of the river, called *Bayou Manshac*, or *Iberville*, by which some of the waters pass, when the river is high, through lakes *Maurepas* and *Pontchartrain* into *Lake Borgne*, that is, the Gulf. On the west-side, 128

* The islands at the mouth of this bay, when seen from some points, give it the appearance, and have bestowed on it the name of lake.

les below Atchafalaya, and 8 below Iberville, is *Bayou Plaquemine*, which is an outlet for the Mississippi only when that river is within 8 or 10 feet of its greatest height in its annual flood. It is 15 miles long, and communicates with the Atchafalaya. On the same side, 31 miles above and 90 miles above New Orleans, is *Bayou la Fourche*, which has a south-east course of 90 miles to the Gulf. From this place the Mississippi has no outlet of importance until it finally disembogues by its main, and some smaller mouths into the Gulf, having flowed through the middle of a neck of land 30 miles long, and about 8 or 9 wide, which seems to have been formed by the action of the river. Though the water in the bar at these mouths of the river is nowhere more than 16 feet, it rises from 80 to 130 feet within the bars, for 180 miles up the river.

The *Teche* rises in the district of Opelousas, and, flowing first south-east and then more to the east, falls into the Atchafalaya after a very tortuous course of about 260 miles, or 120 miles direct. Like the Mississippi, its lower banks are higher than the adjoining country, and, like that river, it receives no tributary stream. West of the *Teche* are the *Vermilion*, *Mermentau*, *Calcasieu*, and the *Sabine*; the three last of which, after a south or south-south-west course, expand into lakes before they reach the Gulf. Of these streams the *Sabine* is much the largest. It rises in Texas, through which it flows about 70 miles to 32° N. lat., where it becomes the boundary of the United States. Its general course is first to the east of south and then to the west, so as to form one great curve to the east, which, by the windings of the river, is 250 miles. It is too shallow at its mouth to admit of navigation. *Red River* rises in the mountains of Mexico, flows through Arkansas, and, entering Louisiana at its north-west corner, after a general course to the south of 300 miles within the latter State, falls into the Mississippi near the Atchafalaya outlet. Flowing through a flat country, it sometimes expands into lakes, and at others divides into two or more streams, which do not unite again for many miles. The *Washita* rises in Arkansas in $34^{\circ} 45'$ N. lat., and, flowing to the south 400 miles in this State, (30 miles direct), it falls into Red River 25 miles above its mouth. The *Washita* receives the *Tensas*, *Saline*, and *Barthelemy*, from the north-east, and the *Catahoola* and some smaller streams from the west and north-west. The *Amite* rises in Mississippi, flows to the south, and, uniting with the Iberville, takes an east course into Lake Maurepas. It flows about 100 miles through this State.

The lakes of Louisiana are very numerous. Every river which empties into the Gulf expands into one or more. The most important is *Lake Maurepas*, 8 miles north of the Mississippi, which is elliptical in form, 12 miles by 7, and has 12 feet water. On the east it communicates by the pass *Manshac* with *Lake Pontchartrain*, 40 miles by 30 miles long; and this again communicates with the bay called Lake Borgne, the passes of the *Rigolets* and *Chef Menteur*, the first of which re-

ceives Pearl River. Lake Mermentau is 30 miles by 10. *Lake Casciu* is 40 miles by 20. *Lake Sabine* is 30 miles by 10. There are numerous lakes on each side of Red River, and many between the Mississippi and the Gulf, of which *Barataria*,* north-west of the bay of that name, and *Chetamaches*, connected with Atchafalaya bay, are the most considerable.

The southern part of the State is one low unvarying level. It is nearly 100 miles from the coast before any inequality is perceived. The small eminences which here make their appearance gradually become hills as they proceed to the north, and are formed into two distinct ranges, the one turning to the north-east, and the other to the north-west. This vast plain may, as to soil, be thus distributed:—1. Along the whole line of coast, from the Mississippi to the Sabine, is a tract of salt marsh, scarcely raised above the level of the sea, which is covered with reeds or coarse grass, and destitute of trees. 2. There is a large body of land which, from being annually inundated by the Mississippi, and being at all times wet, is also called "swamp;" but which is very different from the preceding. It lies behind the elevated ridge which forms the bank of the Mississippi, and is from 30 to 40 miles wide. According to a survey made by order of the government the land annually overflowed amounts to 5,000,000 acres,† two-thirds of which are very fertile, and only require to be defended from inundation in order to be adapted for cultivation. Another portion, consisting of cypress swamps, would, if drained, be well adapted to rice. To the north of the sea-marsh, and to the west of the Mississippi swamps, the land is divided into, 3, tracts covered with pine, which are comparatively poor; 4. into prairies without timber, that are fertile; and, 5, the margins of the streams which, throughout their course, are heavily timbered, and possess still greater fertility. The richest body of land in the State is the elevated slip on each bank of the Mississippi, and which is there termed "the coast."‡ It is from one to two miles wide, and extends 40 miles below New Orleans, and 150 miles above. Being below the level of the river in floods, it is defended by an embankment or *levée*, from six to eight feet high. The region west of Pearl River, which Spain in 1769 attached to West Florida, resembles the northern part of the State in having a drier soil, and a more varied surface. The quantity of land adapted to the sugar-cane is estimated at 550,000 acres. Cotton, tobacco, and indigo may be cultivated in every part of the State where the soil is not too wet.

The climate of this State is more irregular than it is on the Atlantic, and it is much colder. The sugar-cane is not cultivated on the Mississippi above $30^{\circ} 10'$, whereas, on the Atlantic, it can be cultivated nearly two degrees higher: and the winters are milder at Charleston in lat. 32°

* Barataria Bay is also sometimes called a lake.

† This includes part of the sea-marsh.

‡ From *côte*, Fr.

than at New Orleans in lat. 30. In the low marshy districts, and the margins of the rivers, it is everywhere sickly in autumn.

Louisiana is divided into an eastern and a western district, which districts are subdivided into 34 parishes. The population in 1830 was 273,739, of which 109,588 were slaves, and 16,710 free coloured. The increase in ten years was 40 $\frac{3}{4}$ per cent. The agricultural part of the population is mostly French, and is employed chiefly in the cultivation of sugar and cotton. The annual crop of sugar, though liable to great variations, according to the seasons, averages 100,000 hogsheads of 10 lbs. each. An acre yields about 1000 or 1200 lbs., and each hand cultivates five acres. In the immense plains called *prairies*, in the western part of the State, the business of grazing is extensively followed. Both indigo and rice are cultivated in the rich swamp lands on a small extent. The commercial part of the population is made up of citizens from all the States, and of adventurers from all nations, attracted by the immense amount of domestic produce which New Orleans receives by the Mississippi. The exports of the State thus led by the productions of the fertile regions drained by that river, annually amount to 18 or 20,000,000 of dollars, exclusive of what is sent coastwise. There are no manufactures in this State worth notice, except a very extensive one of refined sugar at New Orleans.

The *Arondelet Canal* connects Lake Pontchartrain with New Orleans, and admits the passage of such vessels as can navigate that lake, Lake Borgne, and Pascagoula Sound. Its length is 2 $\frac{1}{2}$ miles from the Bayou John's to the city. The *New Orleans and Teche Canal* connects the Mississippi, opposite to New Orleans, with Berwick's Bay, at the mouth of the Teche and Atchafalaya; length 100 miles. There is also a railroad from New Orleans to Lake Pontchartrain; length, 4 $\frac{1}{2}$ miles. The banks of this State, including the branches, are 18, and the capitals amount to 23,664,000 dollars.

New Orleans is the capital of the State, and the great emporium of western commerce. It is situated on the left bank of the Mississippi, 18 miles above the principal mouth of the river Balize, and near 90 miles below the mouth of the Ohio. The city consists of three parts,—the original city, and the suburbs of *St. Mary's* above, and *St. Bernard* below, which together extend about 3 miles on the river. In season of inundation the Mississippi is from two to four feet above the level of the streets; but, at its ordinary level, it is below them. When seen from the river, the city exhibits the form of a crescent, and presents a scene of extraordinary activity and bustle. Boats of every description are ranged along the shore above the town, while sea vessels at the wharfs present a forest of masts. Steam-boats of the largest size are continually arriving or departing, and there are seldom less than from 30 to 50 there at once. The plan of the city is regular, but it contains few handsome buildings, and none that have any claim

to magnificence. The upper suburb, St. Mary's, is inhabited chiefly by Americans (natives of the other States), and is built in the style of the northern cities; in the rest of the city the French predominate. The exports are greater than from any city in the Union, except New York, and consist of cotton, sugar, tobacco, flour, pork, whisky, maize, lard, and peltry. It is very unhealthy during the autumnal months, and is particularly dangerous to strangers until they have passed a winter there. The advantages of its commerce, however, are such that it continues rapidly to increase. In 1800 the population was less than 6000, and in 1830 it was 46,310. In 1838 the number of banks in Louisiana was 47, and their capitals amounted to above 36,000,000 dollars.

The other towns of Louisiana are inconsiderable. The largest of them are *Donaldsonville*, selected as the future seat of government,* on the Mississippi, 90 miles above New Orleans; *Baton Rouge*, 20 miles higher; *Francisville*, 20 miles higher; and *Alexandria*, on Red River, above 100 miles from its mouth. *Natchitoches*, 80 miles above Alexandria, at the head of steam-boat navigation, is the centre of the trade to Mexico.

There are three colleges in the State; *Louisiana College*, at Jackson; *Jefferson College*, in St. James's parish; and *Franklin College*, at Opelousas. The State annually appropriates 40,000 dollars for the education of the poor. The Roman Catholics are the most numerous sect and next to them the Baptists.

The legislature consists of a senate of 17 members, and of a House of Representatives of 50 members, both chosen biennially.

Louisiana was settled by the French in 1699. In 1763 it was ceded by France to Spain, and in 1800 re-ceded to France, who, in 1803, made sale of it to the United States. That part of it which lies south 31° N. lat., was then governed as a territory of the United States until 1812, when it was admitted, with the extension of its limits two degrees north, into the Union. The constitution was formed in the same year.

THE SOUTH-WESTERN STATES.—III. MISSISSIPPI

Is bounded on the east, from Pascagoola Bay to the Tennessee River, a north line inclining first to the west and then to the east, which separates it from Alabama: on the north-east, by the Tennessee to the 35th parallel, 10 miles: on the north, by that parallel to the Mississippi, which separates it from Tennessee, 106 miles: on the west by the Mississippi which separates it from the State of Arkansas, 265 miles, and from Louisiana to the 31st parallel, 235 miles: on the south, by that parallel to Pearl River, 105 miles: on the west, again, by that river to its mouth.

* The sessions of the legislature were actually held there in 1830 and 1831, which may explain the discrepancy in geographical works.

30 miles, by which parallel and river it is further separated from Louisiana: on the south, again, by the Mexican Gulf to the Alabama line, 70 miles.* The area is 47,680 square miles.

There are a number of low sandy islands about 8 or 10 miles from the Gulf shore, which form *Pascagoola Bay* on the east, and the *Bay of St. Louis* on the west. They produce nothing but pines or coarse grass, and are of little value.

There are no mountains in this State, the Appalachian chain having here sunk to ranges of hills of moderate height, which serve merely to diversify the surface of the northern part. The rivers of the State are the *Pascagoola*, which falls into the bay of the same name about 12 miles west of the Alabama line. About 40 miles from its mouth it divides into the *Chickasaw* from the north, and *Leaf River* from the north-west. The first is navigable 70 miles, and the last 30. *Pearl River* rises in the centre of the State, flows through it in a southerly direction about 150 miles, and then becomes the lower part of its western boundary, for 60 miles. It is navigable about 150 miles. The following tributaries of the Mississippi are in this State beginning at its south boundary. The *Homochitto*, after a south-west course of about 80 miles, disembogues 50 miles below Natchez. The *Big Black* or *Chitteloosa*, after a similar course of about twice the length, falls into the Mississippi, 50 miles above Natchez. The *Yazoo* rises in the northern part of the State, and after a devious but general south-west course of more than 200 miles, joins the Mississippi 12 miles above the Walnut Hills. It is navigable for boats for 50 miles. The *Tombigbee* has its source in the northern part of this State, and flows through it for about 100 miles in a south south-east course before it enters Alabama. The Mississippi is, however, by far the most important river of the State to which it has given a name.

The southern part of this State, like that of Alabama, is a flat sandy country, covered with forests of pine, intermingled with cypress swamps. From this description must be excepted the lands on the banks of the Mississippi. They consist not only of the alluvial lands next the river, but of a belt of high table-land, which intervenes between them and the pine lands, and which, when near the river, goes by the name of "bluffs." They sometimes rise to the height of 150 feet or more, and in one of them, *Loftus's Heights*, are found breccias and other rocks, the last that are seen in descending the Mississippi. The rest of the State has a gently waving surface, but not a fertile soil, except on the streams. It is believed that when the river shall be confined to its channel here, as in Louisiana, by embankments on the Mississippi, the country will not only be rendered more salubrious, but that a body of land will be rendered fit for cultivation which is inferior to none in fertility. The climate of Mississippi is the same as that of Alabama, except

* Disregarding the indentations.

that its temperature is a little higher. It is, however, thought to be two or three degrees lower than in corresponding latitudes on the Atlantic. The lands formerly occupied by the Choctaws and Chickasaws, and comprehending more than half the State, are supposed to contain a greater proportion of fertile high land than those already settled. As large bodies of these lands have been lately sold by the general government, they will soon be brought into cultivation.

The State is divided into 56 counties, including those lately laid off in the Indian country. The population in 1830 was 136,621, including 65,659 slaves, and 519 free coloured. The increase in ten years was 81 per cent. In consequence of the large bodies of land which have been subsequently sold, and will have been settled by the year 1840, the next census will probably show a much greater rate of increase than in any southern State. Agriculture, from the united advantages of soil and climate, is unusually productive in this State. It is devoted principally to cotton, though some sugar is made on the Mississippi and at other places in the south. Rice, indigo, and tobacco may all be cultivated to advantage. The State has little commerce as yet, and no manufactures. The staple products are all sent to New Orleans. There are 10 banks in Mississippi, including the branches, and their capitals are estimated at 3,666,000 dollars.

Jackson, on Pearl River, near the centre of the State, is the seat of government. It has a healthy and pleasant situation, but is an inconsiderable place. *Natchez*, on the Mississippi, about 300 miles from New Orleans by water, is the largest and oldest town in the State. It stands on an eminence or bluff, 300 feet above the river; and is the centre of an active and extensive commerce. Being opposite to a cypress swamp in Louisiana of great extent, it is very sickly in the summer months: population, 2790. *Monticello* on Pearl River, *Vicksburg* near the Walnut Hills, and *Warrenton*, a few miles below it, on the Mississippi, are small but very thriving towns.

Jefferson College, at Washington, near Natchez, is well endowed, but has not been a successful institution. The State has ample funds for the purpose of popular instruction, which, however, have not yet been put in efficient operation. The Baptists, Methodists and Presbyterians are the prevailing sects.

The legislature consists of a senate of 30 members, and a House of Representatives of 91 members. Its internal revenue (1834) is 88,000 dollars. The constitution was formed in 1817, when it was admitted into the Union, and was amended in 1832.

The whole of this State, except the small portion on the Gulf that was part of West Florida, was within the limits of Georgia until it was ceded to the United States. It was governed as a *territory*, together with the present State of Alabama, from 1798 to 1817, when it was separated from Alabama, as already mentioned.

THE SOUTH-WESTERN STATES.—IV. TENNESSEE

Is bounded on the *south* by a line nearly corresponding to the 35th parallel from the Mississippi to the North Carolina boundary, by which line it is separated from the States of Mississippi, 106 miles, of Alabama, 146 miles, and of Georgia, 70 miles; on the *south-east* by a conventional line between this State and North Carolina, running north 20 miles, and then along the highest ridge of the Alleghany range to the north-east, about 180 miles; on the *north* by a line running a little north of west* to the Tennessee River, by which line it is separated from Virginia, 108 miles, and from Kentucky, 242 miles; on the *west* by the Tennessee, 12 miles; and on the *north*, again, by the parallel of $36^{\circ} 30'$ to the Mississippi, 80 miles, by which river and parallel it is further separated from Kentucky; on the *west*, by the Mississippi, to the southern boundary, by which it is separated from the State of Missouri, to 36° N. lat., about 50 miles, and from the State of Arkansas nearly to 35° N. lat., about 100 miles, by the windings of the river,—thus touching no less than eight States. The area is 40,200 square miles.

All the ranges of the Appalachian chain which are west of the Blue Ridge, in Virginia, traverse the eastern part of this State. Of these, the range which separates the State from North Carolina, and is composed of the Stone, Iron, Bald, Smoky, and Unaka Mountains, is the highest. Next to this in height is supposed to be the Cumberland range, the most western of all, which constitutes part of the western boundary of Virginia, and separates East from West Tennessee. Its elevation is, however, moderate, and is thought nowhere to exceed 1000 feet above the level of the ocean. This range runs from 60 to 70 miles north-west of the eastern boundary.

This State is amply supplied with rivers. Besides the *Mississippi*, which forms its western boundary, and the *Tennessee*, which by its winding course first crosses it from north to south, and then at an interval of 200 miles, from south to north, the State has the *Holston*, which flows from Virginia to the south-west, and joins the Tennessee, in the mountainous district, having previously received from the south-east the *French Broad*. The *Holston* is a much larger and longer stream than the Tennessee, at the point of junction. The *Clinch*,

* The northern boundary line of this State, which was intended to be a parallel of latitude ($36^{\circ} 30'$), according to the charter of North Carolina, was made to diverge so far to the north by those who ran it, that when it reached the Tennessee, the deviation, as it afterwards appeared, amounted to about 12 miles. As the error deprived Kentucky probably of more than a million of acres, to which by their several charters she was entitled, it was near producing a serious dispute between the two States; but the matter was compromised in 1820, by confirming the erroneous line to the Tennessee, and thence running the true line to the Mississippi. There is a similar, but smaller deviation on the southern boundary.

which also rises in Virginia, after a similar south-west course joins the Tennessee 60 miles below the Holston. These rivers are separated by one of the Appalachian ranges, and their course is nearly parallel. The *Nolichucky* is the most northern and the longest branch of French Broad in this State. Lower down, the *Hawassee* joins the Tennessee from the west. All these rivers are received by the Tennessee before it passes into Alabama; after it again enters the State to which it has given its name, it receives *Duck River*, which taking its rise on the west side of the Cumberland Mountains, has a course a little north of west, of 130 miles direct. The *Cumberland* enters this State from Kentucky about the middle of its northern boundary, and making a great bend to the south, repasses into the same State, about 150 miles from its place of entrance. Several rivers flow into it from the south in a north-west direction. The principal streams which fall direct into the Mississippi from this State are *Obian*, *Forked Deer*, *Big Hatch*, and *Wolf* rivers, the first two of which have a general south-west course, and the last two flow to the north of west. It will thus be perceived that the State has three separate systems of streams, all flowing to the west, and implying three distinct general slopes from east to west.

Though the greater part of Tennessee is mountainous or hilly, it has a large proportion of very fertile land. In east Tennessee, the most mountainous region, the soil is well suited to wheat and other grain, tobacco, hemp, flax, and fruit-trees. In west Tennessee, where the climate is milder, cotton is extensively cultivated. The mineral products are iron, lead, gypsum; and nitrous earth is so abundant that saltpetre could be manufactured to any extent. Marble in great variety, and burr mill-stones, are found in the Cumberland Mountains. The other minerals which have been found in the State are gold, zinc, manganese, magnetic iron ore, roofing slate, coal and salt. In the Cumberland Mountains are numerous limestone caves, some of them of great extent and singularity. The same mountains abound in organic remains both animal and vegetable: among the latter are the cypress, sycamore, and hickory. Beds of oyster-shells are found on high table-lands, some of which are said to weigh two pounds. Mr. Flint thus speaks of the singularly deep channels which some of the streams of this State have made in the limestone country. "Descending many of them that are large enough to be boatable, the astonished voyager looks up and sees himself borne along a river running at the base of perpendicular limestone walls, sometimes three or four hundred feet high. The view is still more grand and surprising when the spectator looks down from above, and sees the dark waters rolling at such prodigious depths below him, in a regular excavation, that seems to have been hewn from the solid limestone on purpose to receive the river." The climate of west Tennessee has a temperature several degrees higher than that of the eastern division, owing to the difference of

ation ; but the latter contains some of the healthiest spots in North America.

The State is divided for some purposes into two unequal districts, of which the eastern has 22 counties, and the western 40. The population in 1830 was 681,904, of which 141,603 are slaves, and 4,555 free coloured. The increase in ten years was 62 per cent. The inhabitants are generally planters and farmers, and their products are cotton, tobacco, wheat, maize, and other grain. In east Tennessee the greater number are graziers ; large droves of their cattle, reared at little expense, are annually driven to Virginia, and there fattened for market. Their hogs and horses are commonly driven to the Carolinas. The only manufactures, the household excepted, are those of bar iron, coarse cotton and hempen fabrics, and cordage. The State in 1838 had 11 banks, whose capitals amount to about 6,000,000 dollars.

Nashville, on the left bank of the Cumberland¹ is the capital, and the largest town in the State. It has a steam-boat navigation to the Ohio, and is well built, healthy, and thriving. Population, 5,556. *Knoxville*, on the Holston, near the centre of east Tennessee, 178 miles west of *Nashville*, has a population of about 3,000. *Murfreesborough*, 30 miles south-east of *Nashville*, has 1400 inhabitants. *Memphis*, on the Mississippi, near the south-west corner of the State, is a very thriving town, and a great place of resort for the Mississippi steam-boats.

The *University of Nashville* has six instructors, and a library of about 5000 volumes. There is also a *College at Greenville*, and another at *Knoxville*. There is a theological seminary at *Maryville*, in east Tennessee. The prevailing sects are Methodists, Baptists, and Presbyterians.

The legislature consists of a senate of 25 members, and of a House of Representatives of 75 members, all of whom are elected biennially. It meets only every other year. The annual revenue is 93,000 dollars.

Tennessee was originally within the limits of North Carolina. It was ceded to the United States in 1790, and remained a territorial government until 1796, when it was admitted into the Union. The present constitution was formed in the same year.

THE SOUTH-WESTERN STATES.—V. ARKANSAS

Is bounded on the east from the 33d to the 36th parallel, by the Mississippi, which separates it from the State of Mississippi, 265 miles, and from Tennessee, 80 miles : on the north by the 36th parallel to the St. Francis, 30 miles ; on the east, again by that river, to the parallel of 36° 30', 40 miles ; on the north, again, by the same parallel, 240 miles, by which three lines it is separated from Missouri ; on the west by a meridional line to Red River, 200 miles, by which it is separated from the Missouri territory ; on the south by Red River, 10 miles ; and on the west, again, by a meridional line to the north-west angle of Louisiana, 50 miles, by which two lines it is separated from the Mexican territory ;

on the south by the 33d parallel to the Mississippi, 170 miles, by which it is separated from Louisiana. The area is 55,000 square miles.*

The *Ozark*† Mountains cross the north-west corner of this State, in a direction nearly parallel with the Appalachian chain, and consequently nearly at right angles with that of the Rocky Mountains. They are here called the Black Mountains. The *Masserne*† Mountains consist of a chain which runs nearly west from the middle of the State, until it meets the Ozarks. Neither the height nor the breadth of either chain has been yet accurately ascertained.

The *Arkansas*, one of the largest tributaries of the Mississippi, crosses the State in a south-east direction, and divides it into two nearly equal parts. Its junction with the Mississippi is about 400 miles above the mouth of Red River. *White River*, rising in the *Ozark* mountains in the State of Missouri, and flowing to the east and south, enters Arkansas; its course in this State is south-east 120 miles direct, and south about the same distance, until it falls into the Mississippi, 12 miles above the mouth of the *Arkansas*. The two rivers interlock near their mouths. *White River* receives numerous branches, the most considerable of which is *Black River*, which, rising in Missouri, has a general south course, of which about 50 miles are in this State. The *St. Francis* also rises in Missouri: the main branch has its source in the Iron Mountains, and has a south-east course; the other branch, the *White Water*, rises near Cape Girardeau, and flows sluggishly to the south through the *Big Swamp*. They unite within the State of Arkansas, and after a south course of about 100 miles direct, the river falls into the Mississippi. The *Washita* rises in the *Masserne* Mountains between Red River and Arkansas, and taking a general south-east and south course of about 100 miles, receives the *Little Missouri* from the west; after a south-east course of 50 miles direct, it receives the *Saline* from the north, and after a further course of about 15 miles, passes into Louisiana to join Red River. Its course through this State by its windings is about 300 miles. *Red River* enters this State from the west 40 miles north of its south-west corner, and flowing east about the same distance, turns to the south, and passes into Louisiana.

The soil of this State is of every variety of fertility, from the rich alluvium of the Mississippi to the pine tracts of the mountains. Between the *Masserne* range and the Mississippi the country seems to have a general but very gentle slope to the south-east, and as it approaches the river the land becomes a mere swamp, extremely fertile, but at present

* The superficial extent of Arkansas is made much greater by Tanner; but according to his map, which cannot be very incorrect (the boundaries being by latitude and longitude), it does not exceed the estimate here made. He is, however, generally accurate in these estimates.

† The *Masserne* mountains owe their name to a particular mountain, which the French traders and hunters called Mount Cerne; and the *Ozark* mountains derived theirs from the provincial designation of Arkansas (probably *Aux Ark*). But how derived, these names have now obtained a general currency.

totally unfit for cultivation. The lands on Red River are among the best. Those lying on the Arkansas are also very good, but above 34° N. lat. The climate seems unsuited to cotton, though well adapted to wheat. *Mount Prairie* is a singular feature in this country. It is a table land, rising abruptly from the surrounding plain, and situated between Little Missouri and Red River, of ten or twelve miles diameter, the soil of which is as black as ink, and beneath it sea-shells are everywhere found to a very great depth. Between the rivers of this territory there are large tracts of barren ridges and sandy prairies.

The climate for 200 miles up the Arkansas resembles that of Louisiana in temperature and humidity. The season of planting maize is about three weeks later than in the neighbourhood of New Orleans, but more than three weeks earlier than in Missouri. The eastern part of the State, nearly as far as Little Rock, being flat and marshy, is very unhealthy; but in the prairies and the highlands it is as healthy as most other parts of the United States.

Arkansas is supposed to be rich in minerals. Those hitherto found are iron ore in every part, and lead, limestone, gypsum, and coal on the White River. Salt is very abundant in a region 100 miles wide, which traverses the middle of the State from north to south. It is sufficient to give a brackish taste to some of the rivers. There is a plain or prairie which is for many miles covered with crystallised salt, from four to six inches deep.

The *Hotsprings* near the Masserne Mountains, are remarkable for their extraordinary temperature, that of some of them being nearly equal to boiling water. They exhibit no mineral properties. Two miles from the springs is a quarry of the Turkish oil-stone.

The State of Arkansas is divided into 34 counties. The population in 1830 was 30,383, including 4578 slaves. The increase in 10 years was 112.8 per cent. In 1835 the population was 58,134. The settlements are very scattered. *Little Rock*, or Arkopolis, is the seat of government. It is on the right bank of the Arkansas, about 300 miles above its mouth by the river, and 120 miles by land. It is accessible by steam-boats. The post of *Arkansas*, an old French settlement, is on the left bank of the Arkansas, about 100 miles south-east of Little Rock.

The legislature consists of a senate of 17 members, elected for four years, and of a House of Representatives of 54 members, elected biennially. Arkansas became a territorial government in 1819, when its limits extended to the Mexican boundary, but in 1824 it was restricted to its present limits on the west. There were then French and Spanish settlements in the country of long standing. It became a separate State in 1836.

THE NORTH-WESTERN STATES.—I. MISSOURI

Is bounded on the east by the Mississippi, which separates it from Ten-

nessee about 60 miles, and Kentucky about the same distance: on the north-east by the same river to the mouth of the Lemoine,* which separates it from Illinois 450 miles: on the north-east by the River Lemoine, 20 miles: on the north by the parallel of $40^{\circ} 30'$, to the river Missouri, 150 miles: on the south-west by the same river to its junction with the Kansas, about 250 miles by the course of the river; on the west by a meridional line which separates it from the territory set apart for the Indians, 285 miles: on the south by the parallel of $36^{\circ} 30'$, which separates it from Arkansas, 200 miles: on the west, again, by the St. Francis, 40 miles, and on the south by the 36th parallel to the Mississippi, 30 miles, which two last lines also separate it from Arkansas. The area is 66,000 square miles.

The *Ozark Mountains* run from near the centre of the State in a general south-west direction to Texas. They consist of distinct knobs and ridges, of no great elevation in this State, but increase in height as they proceed south. There is also a ridge to the east of them, called the *Iron Mountains*, which may perhaps be found to be a continuation of the *Masseroc Mountains*, in Arkansas, but neither range has yet been sufficiently explored for its precise course, length, breadth, or height, to be known.

The *Mississippi* forms the eastern boundary of this State, and the *Missouri* traverses it from west to east for more than 400 miles. Its rivers tributary to the Mississippi are, the *St. Francis*, which, rising in the Iron Mountains, and flowing south 200 miles, passes into the State of Arkansas. *White Water* on the east, and *Black River* and *Current River* on the west, have a similar source and course before they unite with the St. Francis in Arkansas. The *Maramec* rises on the north side of the Iron Mountains, and, flowing to the north-east, receives *Big River* from the south; it then gradually bends to the south-east, and falls into the Mississippi 20 miles below St. Louis. *Salt River* rises in the territory north of this State, and flowing first to the south, and then to the east, falls into the Mississippi, after a course of about 250 miles in Missouri. The other principal streams of the State are tributaries to the Missouri. They are the *Gasconade*, which rises on the east of the Ozark Mountains, and flowing parallel to them, falls into the Missouri, after a north-east course of about 200 miles. The *Osage*, which rises to the west of the State, flows to the east and north-east about 200 miles through it, and falls into the Missouri, 12 miles below Jefferson City, receiving several tributaries from the north and the south. The *Chariton*, rising in the territory north of the State, flows in a south course to the Missouri, and through this State, about 150 miles. *Grand River*, further west, has a south-east course through the State of about the same length. It receives several large branches in the north-west angle of the State.

The surface of Missouri may be divided into two great but unequal slopes. The one extends along the southern border of the State, is about

* Formerly *Rivière des Moines*.

miles wide, inclines to the south-east, and is a continuation of the inclined plane which extends into the State of Arkansas. The other comprehends the rest of the State, and forming the lower part of the Missouri Valley, has a general inclination to the east. The soil of the State is very various, but a large proportion of it is of first-rate fertility. The alluvial lands of the Missouri are more mixed with sand than those of the Mississippi, but are equally productive. Many of the extensive prairies are little less fertile than the river lands. But generally, at a distance from the streams, the soil is represented to be poor. Cotton can be grown in the southern parts near the Mississippi. Tobacco, wheat, maize, hemp, flax, and the fruits of temperate climates, come to great perfection. The prairies are equally well suited to grass and grain.

About St. Louis, in $38^{\circ} 30'$ N. lat., lead is found in extraordinary abundance, to the south of the Missouri, in a region 100 miles by 40. The ore lies in detached masses of rock in gravel. The mines are extensively wrought. Manganese, zinc, antimony and cobalt are found. Coal, iron, gypsum and salt also abound.

The climate seems distinguished from that of the country south of it by its remarkable dryness. It is colder than the latitude, even in America, would indicate, which fact has been attributed to the prevailing west and north-west winds from the Rocky Mountains, which sweep over the immense plains which lie between these mountains and the State of Missouri without interruption. The Mississippi at St. Louis is commonly frozen over by the 1st of January; and in some years it is frozen below the southern extremity of the State.

Missouri has 34 counties, containing 140,455 inhabitants, of whom 4,990 are slaves and 569 free coloured. The increase in 10 years, by the last census, was $130\frac{2}{3}$ per cent. The people in the settled parts of the State are planters and farmers. Some are also engaged in the fur trade, and in a commerce with Mexico overland. That part of the population which consists of the descendants of the early French settlers are mostly boatmen and huntsmen. The trade by steam-boats on the Mississippi has increased very rapidly, and given a great spring to agricultural enterprise; but some of the best lands for farming, the prairies, cannot now be cultivated for want of the means of fencing, as they afford neither timber nor stone. Plantations have been recommended as the means of obtaining a supply of timber for fences. The articles of export are flour, tobacco, pork, furs, and lead. The last may be regarded as the principal manufacture of the State; 30,000,000 pounds are ordinarily made in a year; and a small part of it is also manufactured into sheet and white lead.

St. Louis on the Mississippi, 20 miles below the mouth of the Missouri, is the largest town in the State. It carries on a brisk trade, both of export and import, with New Orleans, and has a considerable traffic in furs with the interior. The population in 1830 was 6694,

and has since greatly increased; in 1839, it exceeded 20,000. *Jefferson City*, on the right bank of the Missouri, in the centre of the State, has been selected as the permanent capital. At present it contains few buildings. The other principal places of trade are *Hercules*, *Genevieve*, and *Cape Girardeau*, on the Mississippi, below the mouth of the Missouri; *Potosi*, in the middle of the mining district, which is chiefly in lead: *St. Charles*, on the left bank of the Missouri, near its mouth; and *Franklin*, on the same side, 50 miles above Jefferson City. There is a Catholic college at St. Louis, with six instructors, and a Catholic seminary at the Barrens. The principal religious sects are Catholics, Methodists, Baptists, and Presbyterians.

The General Assembly consists of a senate of 18 members, and a House of Representatives of 49 members. The cession of Louisiana to the United States comprehended this State. In 1804 it was separated from Louisiana, and placed under a territorial government, which continued until 1821, when it was admitted into the Union. The constitution was formed the year before.

THE NORTH-WESTERN STATES.—II. KENTUCKY

Is bounded on the *south* by the parallel of $36^{\circ} 30'$, from the Mississippi to the Tennessee, 80 miles: on the *east* by the Tennessee, 12 miles: on the *south*, again, by a line running easterly from the Tennessee to the Cumberland Mountains, 242 miles, by which three lines this State is separated from Tennessee: on the *south-east* by the Cumberland Mountains to the Great Sandy, 106 miles: on the *north-east* by the Big Sandy, 70 miles, by which mountains and river it is separated from Virginia: on the *north* by the Ohio River, which separates it from the State of Ohio, 173 miles: * on the *north-west* by the same river, to 37° N. lat., which separates it from Indiana, 280 miles, and from Illinois, 130 miles: on the *west* by the Mississippi, which separates it from Missouri, about 60 miles. The area is 40,500 square miles.

The only mountains in this State are those of the Cumberland range, some of the ridges of which pass to the west of its south-east border.

The *Ohio* forms the boundary of this State for above 600 miles, and the *Mississippi* for more than 60 miles. All the other rivers fall into the Ohio. *Big Sandy*, its north-east boundary, flows first north-west, and then, having received its west fork, to the north, before it joins the Ohio. It is navigable to the mountains. The *Licking* rises in the Cumberland Mountains, and, after a north-west course of 200 miles, falls into the Ohio, opposite Cincinnati. The *Kentucky* rises in the same mountains, and by a more devious, but general north-west course of about 300 miles, joins the Ohio at Port William, 77 miles above Louisville. It is navigable for steam-boats 60 miles, and for batteaux near 100 miles further. *Salt*

* This estimate of boundary does not include the smaller windings of the rivers. According to these, Kentucky is bounded by the Ohio for 790 miles.

River rises in the centre of the State, and flowing north, about 40 miles, turns to the west, and after a course of about 100 miles unites with the *Rolling Fork* from the south, and, again turning to the north-west, enters the Ohio at Shepperdsville. It is a large stream for its length, and is navigable for boats 150 miles. *Green River* also has its source near the centre of the State, and, flowing first to the west, and then to the north-west, with considerable bends, joins the Ohio 200 miles below Louisville. It receives the *Big Barren* from the south-east, with some other tributaries, is navigable for 200 miles, and has a course of more than 300 miles. The *Cumberland* rises in the mountains of the same name, and winding to the west and south-west, about 200 miles, enters Tennessee; continuing its course first to the south-west, then to the west, and finally to the north-west, about 250 miles, it again enters Kentucky, and after a further course of 70 miles, falls into the Ohio, 60 miles above its mouth. It is navigable to Nashville for steam-boats, and for bateaux 300 miles higher. The *Tennessee*, after forming the boundary of the State for 12 miles, flows through it for 60 miles, and disembogues into the Ohio, 12 miles below the Cumberland.

This State has a general slope towards the north-west, but the surface, except in the small part which is mountainous, is undulating throughout. It contains, probably, a greater proportion of first-rate high land than any State in the Union. With the exception of the mountainous district in the south-east, the whole State has a substratum of limestone from 5 to 10 feet below the surface of the soil, and to this circumstance its extraordinary fertility has been mainly imputed. To the south of *Green River*, and for a small extent to the north, there are large tracts, called "barrens," from their comparative inferiority to the best lands, but they are found well adapted to farming, and would, in some of the Atlantic States, be regarded as rich. The rivers of this State, having often worn deep channels into the limestone, afford no alluvial land; and they occasionally exhibit very wild and picturesque scenery in their lofty and precipitous cliffs: indeed, the natural landscape of the country is generally extremely beautiful from the singular freshness of its verdure, its diversified surface, and its open groves, which present the appearance of pleasure-grounds rather than of native forests. Though the State is well watered with rivers and smaller streams, it is in some places ill supplied with springs and fountains.

Nearly the whole of the State being of secondary formation, it possesses marble in great variety, as well as limestone, coal and salt. It contains also iron in abundance, lead, and aluminous earth. It has some mineral springs, which are much resorted to in summer. The *Olympian Springs*, 47 miles east of Lexington, are partly sulphureous, and partly chalybeate. Those of *Harrodsburg*, 31 miles south of Frankfort, are the most frequented, and are deemed efficacious in cases

of indigestion and affections of the liver. Like other limestone countries, Kentucky abounds in caves, especially in the south-east, where they occur in unusual variety and extent. The *Mammoth Cave*, near Green River, besides exhibiting, in great variety, the curious and fantastic appearances which are common to all caverns in limestone countries, is remarkable for its great extent, as well as the extraordinary height and width of some of its caverns. The first explorers, following its numerous windings, supposed it to extend 16 or 18 miles from the mouth, but a more careful survey has reduced the distance to two miles and a half. Another local feature, derived from the substratum of limestone, is the frequency of funnel-shaped pits from 20 to 100 feet diameter, and 60 or 70 feet in depth. By these cavities the rains find a passage through perforations in the limestone below, under the stratum of which streams of water are sometimes found. They are called "sink-holes," and are met with in Western Virginia, Tennessee, and other countries abounding in limestone.

This State is divided into 83 counties. The population in 1830 was 687,917, of which 165,213 were slaves, and 4,917 free coloured. The increase in ten years was 22 per cent. The people have great enterprise and industry, as is manifested in their agriculture, manufactures, and internal traffic. The agricultural products are tobacco, hemp, and flax, wheat, maize, and other grain: horses, cattle and hogs. Cotton is grown in the southern part of the State for domestic use. Manufactures were at first greatly stimulated by the cost of transportation, either overland from the Atlantic States or up the Mississippi; and since this cost has been so much reduced by steam-boat navigation, the protection afforded by the federal tariff, and the gradual diminution of the first difficulties, have continued the original impetus. Manufactures of hemp are prosecuted more extensively in this State than in any other, particularly for *cotton-bagging*. There are also thriving manufactures of cotton, wool, iron, leather, paper, hats, and glass. The exports from Kentucky, from its very productive soil as well as its manufactures, are considerable; and it supplies the Atlantic States with hogs, horses, cattle, and mules, to the amount of seven millions of dollars annually. The only canal in the State is that between *Louisville* and *Portland*, which passes round the Falls of Ohio, is not quite two miles in length, and is navigable for the largest steam-boats. A railroad extending from *Lexington* to *Louisville*, 90 miles, is nearly completed. A system of internal improvement was established by the legislature in 1836, by which the three principal rivers of the State, Green, Kentucky, and Licking rivers, were to be made navigable by means of locks and dams, at the sole expense of the State, and McAdam turnpike-roads throughout the State, at the joint expense of incorporated companies and the State. Every part of the system is in course of execution. The whole is placed under the

management of a *Board of internal improvement*. In 1838 there were fourteen banks in the State, with capitals to the amount of 7,000,000 dollars.

Frankfort, on the right bank of the Kentucky, 60 miles from its mouth, is the seat of government. Population, 1680. *Louisville*, on the Ohio, is the largest town in the State. It is well built, has several manufactories of cordage and bagging, and a very active trade on the river. The population in 1830 was 10,352, having more than doubled in 10 years. *Maisville*, on the Ohio, 67 miles north-east of Frankfort, is the second commercial town of the State. It has some glass and other manufactures. Population, 2,040. *Lexington*, the oldest town in the State, is situated on a branch of the Elkhorn, 24 miles south-east of Frankfort. It is in the centre of the most improved and fertile part of Kentucky, and the principal seat of its manufacturing industry. Population, 6,104. *Newport* and *Covington*, two small towns on the opposite sides of Licking River, are opposite to Cincinnati, and may be regarded as its suburbs. The number of towns and villages, containing from 500 to 1000 inhabitants, is very great.

Transylvania University, in Lexington, is the oldest college in the West. It has six professors and a library of 4000 volumes. There is connected with it a very successful medical school of six professors, together with a law-school. There are also *Centre College*, at Danville, founded by Presbyterians, having eight instructors; *St. Joseph's College*, at Bardstown, by Roman Catholics, having 15 instructors, and a library of 5000 volumes; *Augusta College* by the Methodists, with six instructors; *Cumberland College*, at Princeton, by the Cumberland Presbyterians, with three instructors; and *George Town College*, by the Baptists, with eight instructors. The State has a literary fund of 140,000 dollars. The prevailing sects in the State are Baptists, Methodists, Presbyterians, and Catholics.

The legislature consists of 38 senators elected for four years, one-fourth each year, and 100 representatives, elected annually. The annual revenue is about 200,000 dollars.

Kentucky was originally within the limits of Virginia. The first white settler was Daniel Boone, in 1769. It was separated from Virginia in 1790, and was admitted into the Union in 1792. The first constitution was formed in 1790, but in 1799 it was remodelled to its present form.

THE NORTH-WESTERN STATES.—III. ILLINOIS

Is bounded on the south-east by the Ohio (from the Mississippi to the Wabash), which separates it from Kentucky, 130 miles; on the east by the Wabash, 120 miles direct, and by a meridional line to Lake Michigan, 162 miles, by which river and line it is separated from Indiana; and by the western margin of that lake, 57 miles; on the north by the parallel of 42° 30' to the Mississippi, 157 miles, by which it is

separated from the Wisconsin territory: on the west and south-east by the Mississippi, which separates it from the same territory, 200 miles, and from the State of Missouri, 340 miles. The area is 57,000 square miles.

Between the Mississippi, Ohio, and Wabash, which form two-thirds of the boundary of this State, its rivers are the *Kaskaskia*, which, rising on the east side of the State, and flowing to the south-west, about 250 miles, falls into the Mississippi about 80 miles above the mouth of the Ohio. The *Illinois*, the largest river in the State, rises near Lake Michigan, and flowing first west and then south-south-west, enters the Mississippi 20 miles above the Missouri. It expands into a lake called Peoria, 20 miles by 2, about 200 miles above its mouth. A morass at its source in wet seasons discharges a part of its waters into the river, and a part into the Chicago, a stream which flows into the Lake. It takes the name of Illinois only from the confluence of *Plane River* from the north-east, and the *Kankakee* from the east, both considerable streams, and navigable for boats. Thirty miles below their confluence *Fox River* falls into the Illinois from the north. Fox River rises in the Wisconsin territory, and has a south-south-west course of 200 miles, more than half of which is in this State. By some this is considered the main branch of the Illinois, but whether by this or the Kankakee branch, its course through this State cannot be less than 400 miles. The other principal tributaries of the Illinois are *Vermilion River* from the south-east, the *Mackinac* from the north-east, *Spoon River* from the north-west, and the *Sangamon*, or *Sangamo*, from the east. The last, by much the largest, has a very tortuous course to the west of more than 250 miles, of which 140 miles are navigable, and falls into the Illinois 130 (about 85 direct) miles above its mouth. *Rock River* rises in the Wisconsin Territory, and entering the State of Illinois, on its north boundary, crosses it in a south-west course of about 200 miles (125 direct) to the Mississippi. The principal tributaries of the Wabash in this State are the *Embarras River*, which disembogues 10 miles below Vincennes, after a south and south-east course of about 150 miles, and the *Little Wabash*, which falls into the principal river about 12 miles above its mouth.

There is a range of low hills near the Ohio, and the western part of the State has an undulating surface; but with these exceptions Illinois is one great plain, which has a general slope to the south-west. The soil may be thus divided: 1. The *alluvial lands* on the rivers, which vary from one mile to eight in width, and are subject to occasional inundation. 2. *Dry prairie lands* on the borders of the alluvial, and elevated above them from 30 to 100 feet. These lands sometimes almost touch the river, and, though generally less fertile than the river lands, are preferred as being not subject to inundation. 3. *Wet prairies*, covered with coarse grass. 4. *Timbered land*, some of which is sterile, but the greater part very fertile. A part of this consists of what are called *oak openings*,

which are insulated spots in the prairie lands of scattered trees with little or no underwood. The beauty of these natural groves is occasionally enhanced by small lakes of clear water. It is supposed that this State contains more good arable land than any other in the Union. The *American Bottom*, a tract on the Mississippi, extending above the mouth of Kaskaskia for 90 miles, has great celebrity. Its soil, the richest river alluvium, continues unchanged for 25 feet below the surface, and some portions of it have been cultivated in Indian corn, without intermission and without manure, for more than a century. The minerals of the State are *iron, copper, and lead*. The mines of the last are wrought, and are supposed to be the richest in the world. The mining district is in the north-west part of the State. The vein of ore extends from the State of Missouri across Illinois into Wisconsin Territory. The ore yields on an average from 60 to 70 per cent., is 200 miles in extent, and passes to the north of the State. *Coal* is found in every part of Illinois; salt-springs are common, as well as limestone, gypsum, and sandstone. The climate is very much the same as that of Missouri, except that it is more humid, and in general less healthy.

Illinois is divided into 52 counties. The population in 1830 was 157,445, of which 747 are slaves, brought here while it was a territory. The increase in ten years was 185 per cent. A canal from Chicago, on Lake Michigan to the Illinois, has been projected, and will, when completed, afford the shortest communication by water between the Mississippi and the great lakes. The agricultural products of the State are maize, wheat, hemp, flour, and tobacco. Swine are reared in great numbers from the abundant mast of the forests. There are few manufactures in the State, except those of salt and lead. Of the latter, 8,000,000 lbs. were produced in 1830. In 1838 there were eight banks in the State, the capitals of which amounted to 2,000,000 dollars.

Springfield, near the centre of the State, is the seat of government. *Jacksonville* is about 40 miles west of Springfield. *Kaskaskia* and *Cahokia* are old French settlements on the American Bottom, which contain about 500 inhabitants each. *Alton*, at the upper extremity of the same bottom, has a population exceeding 2000. *Galena*, in the centre of the mining district, has about 1200 inhabitants. *Chicago*, on Lake Michigan, has a population of 4000 to 5000. Most of the towns in this State are rapidly increasing in numbers.

Illinois College, at Jacksonville, *Shurtleff College*, at Alton, and the theological seminary, at the same place, are the chief public seminaries of the State. The Methodists, Baptists, and Presbyterians are the prevailing sects.

The legislature consists of 40 senators and 91 representatives.

This State is within the limits of the cession which Virginia made to the United States in 1787; but the first settlements made in it were by the Canadian French about the year 1673. It was, with Indiana,

formed into a Territory of the United States in 1800. In 1809 they were made separate territorial governments, and in 1818 Illinois was admitted into the Union. The constitution was formed in the same year.

THE NORTH-WESTERN STATES.—IV. INDIANA

Is bounded on the south-east by the Ohio, which separates it from Kentucky, 280 miles;* on the east by a meridional line, which separates it from the State of Ohio, 177 miles, and from the State of Michigan, 10 miles; on the north by the parallel of $41^{\circ} 47'$ to Lake Michigan, 110 miles, and by the southern extremity of that lake, 40 miles; on the west by a meridional line to the Wabash, 162 miles, and by that river to its mouth, 120 miles direct, which line and river separate it from the State of Illinois. The area is 36,500 square miles.

The *Ohio* and the *Wabash* are the most important rivers of this State. The *Wabash* rises in Ohio and flows into this State in a course first to the north, and then to the south of west; it then makes a great bend to the south, and flowing in that direction about 50 miles, becomes the boundary of the State. Its whole course through this State and along its western margin must be between 500 and 600 miles; it is navigable for the whole distance, except at its falls or rapids. All the other principal rivers of the State are tributaries of the *Wabash*. They are *White River*, which enters the *Wabash* about 120 miles above its mouth (about 60 miles direct), and is formed of two main branches, of which the northern has a south-west course of about 300 miles, and the *East Fork* has also a general south-west course of 200 miles; both of them receive several large tributaries. Above the great bend the *Wabash* receives the *Tippawano* and *Eel River* from the north-east, then the *Mississineewa*, from the south-east, and finally, *Little River* from the north-east. *White Water* rises in Ohio, and entering this State on its eastern boundary, after a course of 80 miles returns to Ohio and in that State falls into the *Miami*. A number of streams fall into the Ohio, but none of much magnitude. The same remark applies to those which flow into Lake Michigan. The two branches of the *Maumee*, which empties into Lake Erie, the *St. Joseph's* and *St. Mary's*, both flow into this State from Ohio, before their confluence, and, what is most remarkable, in a course almost directly opposite to that which their united stream takes after the junction. Both the *Kankakee*, and its main branch the *Pickimink*, have their rise, and the first has the greater part of its course, in this State.

Indiana, like Illinois, has a general slope to the south-west. Like that State too, it is, with few exceptions, one great plain. There is indeed a tract of hilly country north of the great bend of the *Wabash*, and the State is skirted on the south by those eminences called "Ohio hills," which sometimes touch the river, and sometimes retire from it

*By the windings of the river, 450 miles.

for two or three miles. They occasionally rise 300 feet above the river. The timbered and prairie lands are more intermixed in this State than is usual; and the alluvial river bottoms are all wide. The soil is admirably suited for grass and grain. The climate is somewhat more equable than that of Illinois, and milder than that of Western Pennsylvania. It is everywhere healthy, except in the neighbourhood of the *wet prairies* and swamps.

Iron, copper, coal and salt have been found in this State, but no mines are yet wrought. Among the numerous caves is one near the Ohio, in which Epsom salts are found in lumps weighing from one to ten pounds. A bushel of the earth yields from four to twenty-five pounds of the salt. Nitre and gypsum are found in the same cave, which is of great extent.

Indiana is divided into 85 counties; the population by the census was 343,031. It is now estimated at about double that amount. The increase in ten years was 133 per cent. The agriculture of the State is directed to wheat, maize, swine, cattle, tobacco, and a little cotton. The most successful vineyards in the United States are at Vevay in this State. They are managed by the Swiss settlers at that place, and consist of native species of the vine, the foreign being found too succulent in that soil and climate. A canal designed to connect the Wabash from the mouth of the Tippacanoë with Lake Erie through the Maumee River is in progress; when completed it will probably be the channel by which Indiana and part of Illinois will receive their foreign merchandise from New York. Its whole length will be 211 miles, of which about 40 miles are in Ohio. In 1835-6 the legislature laid the foundation for a system of canals, railroads, and turnpikes for the whole State, which are placed under the direction and control of a board of internal improvement, and a board of fund commissioners. The system is in course of execution. There is but one bank in the State, with eleven branches. Its capital is about 2,000,000 dollars.

Indianapolis on the left bank of White River, is the capital of Indiana. It is near the centre of the State, and is accessible by steamboats. The population in 1830 was 1200, but, like the other towns in this State, it has since greatly increased. *Vincennes*, on the Wabash, 150 miles above its mouth, was settled by the French more than a century ago. Population, 1800. *New Albany*, on the Ohio, a little below Louisville in Kentucky, is the largest town in the State. Population, 3000. *Jeffersonville*, opposite Louisville, a small but handsome town. Population, 1000. *Madison*, midway between Louisville and Cincinnati, has a great export trade, particularly in barrelled pork. Population, 2000. *Vevay* on the same river, 45 miles below Cincinnati, contains about 1500 inhabitants, chiefly Swiss. *New Harmony*, on the Wabash, was founded in 1814 by a society of Germans, under George Rapp, who some years afterwards sold the establishment to

Robert Owen, of New Lanark, and removed with his followers to Pennsylvania. The co-operative system was adopted by both these leaders, but differently modified, and with very different results. Under Rapp it had entire success, but Owen's experiment proving a failure, the co-operative plan was abandoned, and since that time the settlement has continued to thrive.

There is a college at Bloomington, another at South Hanover, and a third at Crawfordsville, which are as yet only humble establishments. The Baptists are the most numerous sect, and, next to them, the Presbyterians and Methodists.

The General Assembly consists of a senate of 30 members and a House of Representatives of 62. The annual expenses of the State do not ordinarily exceed 40,000 dollars.

Indiana was included in the cession of Virginia to the United States in 1787. It was placed under a territorial government with Illinois in 1800, and under a separate one in 1809. In 1816 it became a State and formed its present constitution.

About 5000 Indians still remain in the northern part of the State. They are principally *Pottawattamies* and *Miamis*.

THE NORTH-WESTERN STATES.—V. OHIO

Is bounded on the south, from the Miami to the Big Sandy, by the river Ohio, which separates it from Kentucky, 210 miles; on the south-east, by the same river, which, from the Big Sandy to the Pennsylvania boundary, separates it from Virginia, 300 miles;* on the east, by a meridional line, which, from the Ohio to Lake Erie, separates it from Pennsylvania, 93 miles; on the north-west and north, by Lake Erie, 150 miles; on the north, again, by the parallel of $41^{\circ} 40'$ from Lake Erie to the Indian boundary, 80 miles, by which it is separated from the State of Michigan; on the west by a meridional line to the Ohio, which line separates it from Indiana, 177 miles. The area is 39,750 square miles.

This State has several harbours on Lake Erie: but they are generally obstructed by bars, and none have a depth of more than 7 feet. The chief of them are: *Sandusky Bay*, an arm of the lake, 20 miles long, and from 1 to 3 miles wide, with a narrow entrance; *Cleveland Harbour*, at the mouth of the Cuyahoga; *Fair Port* at the mouth of Grand River, and *Ashtabula*, on the river of that name.

The Ohio forms the boundary of this State for about 500 miles, and more than three-fourths of its surface are drained by the tributaries of the same river. The most considerable of these streams are: the *Miami*, which, rising near the western boundary of the State, and flowing to the south and south-west, after a course of about 150 miles, falls into

* These distances are according to the windings of the Ohio.

the Ohio, having near its mouth made a bend of 10 miles into Indiana. It receives Mad River from the north-east, and *White Water*, near its mouth from the west. The *Little Miami*, after a similar course, disembogues about 30 miles further up the Ohio. It is of more value for the numerous mill seats it affords than for its navigation. The *Scioto*, rising beyond the centre of the State, and flowing south about 200 miles, joins the Ohio at Alexandria. It is navigable 130 miles. Its principal branch, *Whetstone*, is almost as large as the river itself. The *Hockhocking* has a south-east course of about 100 miles, and falls into the Ohio 180 miles above the Scioto. It is navigable 40 miles to Athens. The *Muskingum* rises in the northern part of the State, and is formed of two branches,—the *Tuscarawas* from the north-east, and *White Woman's River*, from the north-west. It takes the name of Muskingum from the confluence of the two streams, and it flows thence by a very sinuous course of 100 miles to the Ohio at Marietta. The length of the river by either branch is 200 miles, and it is navigable to the junction. The following rivers fall into Lake Erie: the *Maumee*, which rises in Indiana, and flows in an east-north-east direction to the southwestern extremity of Lake Erie. Its course through this State is about 120 miles, and it is navigable 30 miles from its mouth to the rapids. The *Sandusky* has a north course, inclining to the east, of 90 miles to the bay of that name. *Cayahoga* flows first to the south about 50 miles, then turns and flows to the north somewhat further, and enters the lake at Cleveland.

This State is nearly level, but the greater part of it has a general slope to the south, and about one-third of it has a northern slope to Lake Erie. Parts of the State, especially the eastern and south-eastern, are hilly, but there is only a small proportion even of these districts which is unfit for tillage; and nine-tenths of the State may be regarded as fertile. It is somewhat remarkable, that the most wet and marshy part of the State is that which divides the waters of the Ohio from those of Lake Erie. The *prairies* of this State are sometimes wet and sometimes dry, but are all fertile and fit for cultivation. Iron and bituminous coal are abundant in the east and north-east of the State. Salt springs, marble, limestone and freestone are found in almost every part. The *Yellow Springs* on the Miami, 60 miles from Cincinnati, are much resorted to in the summer for the picturesque scenery which surrounds them, the delightful temperature of the air, and the tonic properties of the water. The climate of Ohio, like that of other parts of the Mississippi Valley, has been very generally thought to be milder than it is in corresponding latitudes of the Atlantic; and this opinion, which had been advanced in Jefferson's notes, is unhesitatingly adopted by Volney from his own observations. It is, however, denied by Mr. Darby, who maintains, by a reference to many well-established facts, that the western climates are the colder. It seems not improbable that, as they

are less tempered by the winds from the ocean, they are both warmer in summer and colder in winter, and thus some of the facts severally relied on in support of these opposite opinions may be reconciled. It is also possible that the difference of temperature in different winters may be somewhat greater in the western valley than on the Atlantic. These questions, however, so susceptible of proof from careful observation, cannot remain much longer unsettled.

Ohio is divided into 75 counties. The population, by the census, was 937,000 : the increase in ten years was 61 per cent. Most of the settlers of this State, as well as of Indiana and Illinois, were from New England, and they brought with them the industrious and commercial habits of that country. The agricultural products of the State are maize, wheat, and other grain, hemp, and flax. Tobacco of the finest quality has been cultivated for market within a few years, and has now become one of the staple productions. There are excellent orchards, and in a few places the vine is cultivated. Horses, cattle, and hogs, are driven in great numbers to the Atlantic States, or sent down the Mississippi. Manufactures have been more successfully and extensively prosecuted here than in any part of the western country : they are principally of wool, cotton, and iron ; with leather, paper, hats, cabinet-warc, salt, whiskey, linseed, and castor-oil. It is also the most commercial State of the west. The exports, besides the agricultural products which have been mentioned, consist of flour, barrelled pork, bacon, lard, and whiskey, sent either to New Orleans by the Ohio and Mississippi, or to New York by Lake Erie, and of manufactured articles sent to other western States. Ohio has exhibited extraordinary enterprise in its canals. The one from *Portsmouth*, on the Ohio, at the mouth of the Scioto, to *Cleveland*, on Lake Erie, is 306 miles long, and passes by Piketon, Chillicothe, Circleville, Coshocton, Newark, besides several other places, which, though now inconsiderable villages, will soon be respectable towns. There are several short branches from the main trunk, and among them is one to Columbus, the capital, 11 miles long. The *Miami Canal* extends from Cincinnati to Dayton, on the Miami, 66 miles. Both these canals were begun in 1825, and have been executed at the expense of the State. The whole cost has been about 5,000,000 dollars. In 1838 there were 33 banks in operation, and their capitals amounted to 9,000,000 dollars.

Columbus, on the left bank of the Scioto, 90 miles (direct) from its mouth, and 112 miles north-east of Cincinnati, is the capital. In 1812 its present site was a wilderness : the population in 1835 was 4000. *Cincinnati*, on the Ohio, near the south-west angle of the State, is by far the largest town in the western country. It is laid out with great regularity, and the buildings are mostly of stone or brick. It contains 24 churches, 4 markets, and many manufactories of iron, brass, copper, wool, and cotton, and carries on a very extensive

trade both by the river and the Miami canal. It is situated on an alluvial river bottom, containing about four square miles, and consists of two plains of different levels, the one farthest from the river rising about 50 feet above the other by a gradual slope. This valley, or basin, is bounded by a ridge of the "Ohio hills," which curve round it to the north. The singularly rapid growth of this town deserves notice. In 1795 it contained 500 inhabitants: in 1800, 2540: in 1820, 9733; and in 1830, 26,515. Since that time the number of houses annually added to the city is estimated at 450. *Chillicothe*, on the Scioto, midway between Columbus and the Ohio, is a manufacturing town, with a population of 2846. *Dayton*, on the Great Miami, at the termination of the canal, also has many manufactures and mills: population, 2965. *Marietta*, at the mouth of the Muskingum, is the oldest town in the State. Its growth has been checked by its being subject to inundations: population, 1207. *Zanesville*, on the same river, below the falls, 58 miles east of Columbus, is a thriving manufacturing town: population, 3056. *Lancaster*, a thriving inland town, 28 miles south of Columbus, is inhabited chiefly by Germans, and it communicates with the Ohio and Erie canal by a branch canal: population, 1535. *Gallipolis*, on the Ohio, was originally settled by emigrants from France in 1791, but it has not thriven. *Steubenville*, on the Ohio, in the eastern part of the State, is a flourishing town both in commerce and manufactures. It is 38 miles south-west of Pittsburg, and has a population of 2937. *Cleveland*, on Lake Erie, in 1830 had 1076 inhabitants, but it now amounts to about 10,000, in consequence of the great trade on the canal, of which it is the *entrepôt*. The harbour admits vessels of seven feet water. *Sandusky*, on the bay of that name, is a place of great business, in consequence of being in the line of communication between the Mississippi Valley and New York, Buffalo and Detroit. There are many other towns in Ohio, which contain from 1000 to 1500 inhabitants at this time, and which will soon grow into importance in this fertile, industrious, and prosperous State.

Education has also received liberal encouragement in Ohio. It has five institutions which rank as colleges. The *University of Ohio*, at Athens, on the Hockhocking; *Miami University*, at Oxford; the *Western Reserve College*, at Hudson; *Kenyon College*, at Gambier; and *Franklin College*, at New Athens; besides several others. They each have five or more instructors, and an average of fifty students. There is a medical school at Cincinnati, and another at Worthington, and a law school at Cincinnati. The New England system of common schools has been introduced, and after some early difficulties seems now attended with success. The prevailing sects are the Presbyterians, Methodists, and Baptists; but in the principal towns there is a portion of all the other sects.

The General Assembly consists of 36 senators, and 72 representa-

tives. The annual expenses of the State, exclusive of the interest of the canal debt, are less than 100,000 dollars.

Ohio was comprehended in the cession of Virginia in 1787. Some adventurers from New England had settled at Marietta the year before. It was made a territorial government in 1789, and it became a State in 1802, in which year the present constitution was formed.

THE NORTH-WESTERN STATES.—VI. MICHIGAN.

This State consists of two peninsulas, of which the southern is bounded on the south-east from the Ohio line by Lake Erie, Detroit River, Lake St. Clair, and St. Clair River, 136 miles: on the north-west, by Lake Huron, 250 miles: on the south-west, west, and south, by Lake Michigan, to the Indiana boundary, 300 miles: on the south, again, by the parallel of $41^{\circ} 50'$, which separates it from Indiana, 105 miles: on the west, again, by a line running south to the Ohio boundary, 10 miles: on the south, again, by the parallel of $41^{\circ} 40'$, which separates it from Ohio, 85 miles. The area is about 38,000 square miles. The northern peninsula is bounded on the north-east by the upper part of Lake Huron and St. Mary's River, 50 miles; on the north, by the southern shore of Lake Superior to the river Montreal, 350 miles;* on the north-west, by the same river to its source, by a right line thence to the Lakes of the Desert, and thence by the river Menomones to its mouth in Green Bay, 180 miles, which separate this State from the Wisconsin Territory; on the south-east and south, by Green Bay, Lakes Michigan and Huron, 250 miles. The area is about 20,000 square miles. The whole area of the State is estimated by Tanner at 59,700 square miles. The lake coast of the State has been computed at 1400 miles.

There are a number of small streams in the southern peninsula, which flow north or east into Lake Huron, or west into Lake Michigan, which are generally navigable, and abound in fish, but none of them have much length. The largest are *Grand River*, the *Kalamazoo*, and the *St. Joseph's*, which empty into the Michigan Lake, and the *Saginaw*, which flows into Saginaw Bay of Lake Huron. The *St. Joseph's*, by its bend, runs about 30 miles in the State of Indiana. The *Maumee* runs about 8 miles within this territory before it falls into Lake Erie. The only harbours of this peninsula are at the mouths of the rivers, the shores having scarcely any other indentations, except Saginaw Bay, which has a length of 60 miles, and a width of about 20 miles. The shores of Lake Superior have not been surveyed with sufficient accuracy for the best harbours of the northern peninsula of Michigan to be yet known; the chief bay is that of Kewenaw, about the middle of the southern shore of Lake Superior. Numerous streams flow from this peninsula into the last-mentioned lake, the most considerable of which are the

* Exclusive of the bays and indentations of the lake.

Menominee, which, flowing north, falls into the bay of the same name; *Ontonagon*, farther west, formed of two nearly equal streams; and *Montreal*, which constitutes part of the western boundary of the State. The largest stream of this peninsula is the *Menomonee*, which, taking a general south-east course of 100 miles, falls into Green Bay. The river *St. Mary*, which separates Michigan from Canada, is 50 miles long. It has a fall of 22 feet in the distance of half a mile, round which it is intended to make a canal for large vessels.

The whole of the southern peninsula, as well as the country which surrounds it, is remarkably level; and the soil in the southern part is thought to be equal in fertility to any in the western country. The northern portion, now occupied by the Ottawa Indians, and other tribes, is very inferior, but the whole is a dense forest. The northern peninsula has a more hilly and broken surface than the southern, but the character of the soil is yet little known. The *Pictured Rocks* of Lake Superior are in this part of Michigan.

The number of counties at present laid off is 38; and the population, which in 1830 was for the whole territory 31,639, was, by an enumeration presented to Congress in 1834, upwards of 90,000 within the limits of the proposed State, showing a greater relative increase at that time than any other State or territory can show. This country having been settled by the French, when they were in possession of Canada, many of its oldest inhabitants are still of that nation, but by far the largest part of the population consists of emigrants from New England.

The chief town and seat of government is Detroit, on the west side of the river of that name, 18 miles above Lake Erie, and 9 miles below Lake St. Clair. It has a considerable trade with the Indians. The population in 1830 was 2222; and is now above 9,000, of whom about one-fifth are French. *Monroe*, on the river Raisin, two miles from Lake Erie, is a thriving town, with a population of 3000. *Niles*, on the St. Joseph, a neat well-built town, with several manufactories. Population, 2000. *Mackinac*, or Mackinaw, is on the south side of the island of Michilimackinac, contains about 100 houses, and possesses a good harbour. The island is about 9 miles in circumference, and is well fortified. This is the great centre of resort for the Indians, both to make sale of their peltry, and to receive the annuities paid them by the United States.

Most of the population of Michigan are now employed in husbandry, but by means of steam-boats they begin to enjoy also the benefits of commerce. Seven of these boats afford the means of a daily communication between Detroit and Buffalo in New York, a distance of 313 miles. Others ascend into Lake Huron, and even into Michigan, as far as Chicago in Illinois. When it is considered that this territory touches all the great Lakes, except Ontario, it would seem to have one of the

most favourable positions for commerce that can be imagined ; and this circumstance, together with its natural fertility, seems to destine it to be among the richest and most populous States of the Union. It has 11 banks, with a capital of 1,400,000 dollars.

The legislature consists of a senate of 16 members, elected for two years; and a house of representatives of 50 members, elected annually. The religious sects are principally Methodists, Presbyterians, Episcopalians, Baptists, and Catholics. The first settlement in the peninsula was at Detroit, by the French, in 1670. It, however, advanced so slowly, that in 1820 the population was only 8896. A territorial government was established in 1805, and in 1837 it became one of the States of the Union. This State has already made a liberal provision for education, both in the way of primary schools, and of a university. The funds appropriated to the latter are estimated at 921,600 dollars. The State has also established a system of internal improvement, and provided for a geological survey. Three railroads are to cross the southern peninsula, and about 30 miles of the middle one, from Detroit, have been completed.

WISCONSIN TERRITORY

Is bounded on the *east* by Lake Michigan from the boundary-line of Illinois to the mouth of Menomonies River in Green Bay ; on the *north* and *north-west* by that part of the State of Michigan which lies west of Lake Michigan, by Lake Superior, and by the boundary-line of the United States as far as the Lake of the Woods ; on the *west* and *south-west* by a meridional line drawn from the Lake of the Woods to the Mississippi, and thence by that river to the State of Illinois ; and on the *south* by the parallel of latitude which constitutes the northern boundary of that State. The area is estimated at about 95,000 square miles.

This Territory is almost one uniform level, and it abounds in small lakes, the greater part of which have not been surveyed, and are not yet accurately known. The largest of them is *Winnebago*, which lies south of Green Bay, and is about 40 miles long and from 10 to 12 miles broad.

The principal rivers of the Territory are the *Mississippi*, which constitutes nearly the whole of its western boundary ; the *Wisconsin*, which rises near the centre of the Territory, and, flowing first south and then west, falls into the Mississippi at Fort Crawford, after a course of more than 400 miles. *Fox River* has its source in Puckaway Lake to the east of Fort Winnebago, and falls into Green Bay after a course of 250 miles. *Rock River* rises in this Territory, and flows through it 200 miles in a southerly direction before it enters the State of Illinois. The *Chippewa* has its source in Flambeau Lake, and falls into the Mississippi about 44° 30' N. lat. : it is navigable for canoes 200 miles. *Rum River* rises in Spirit Lake, and, flowing south more than 250 miles, enters the Mis-

Mississippi above the Falls of St. Anthony. Many small streams fall into Lake Superior, both on the north and the south sides of its western extremity; several also fall into Lake Michigan, the largest of which is Milwaukee.

The soil in the southern part of this Territory, that which is best known, and the only portion which is yet settled by the whites, is remarkably fertile; and though it is flat, and much of it is swampy, it is not considered unhealthy. The summers are short, and the winters are extremely cold. About all the lakes and streams the wild rice abounds. It grows six or seven feet under water, and almost as high above it. The seed affords a palatable food, and is used by the present inhabitants, as it had been by the Aborigines, for bread. It is owing to this plant that the whole country bordering on the great lakes of North America is the nursery for those vast flocks of water-fowl, and occasionally of pigeons, which in the winter spread over the more southern parts of the United States. The lead-mine region, which was noticed in the account of the State of Illinois, extends into the south-west corner of this Territory.

The settled part of Wisconsin was in 1837 divided into 19 counties, and in 1836 the population of Wisconsin and Iowa was 22,213, but that of Wisconsin alone is now believed to exceed 50,000. The northern part of the Territory is still occupied by the native Indians.

The present capital of the Territory is *Madison*, on the Four Lakes. It is now an inconsiderable village, but from its central situation, and the beauty of the surrounding country, it will soon become a thriving and populous town, if the public have confidence that the seat of government will not be removed to some other spot which speculators may select. *Green Bay*, at the bottom of the bay of that name, and near Fort Howard, is a flourishing town, and has an active commerce, both with the settlers of Wisconsin and the neighbouring Indians. It consists of two parts, Navarino and Astor Town, and the population of the whole is about 3000. *Milwaukee*, on Lake Michigan, near the mouth of the river Milwaukee, is the largest town in Wisconsin. It is well situated a mile or two from the lake, where the shores form a capacious but exposed bay, and a range of high land to the west of the town affords fine sites for building, some of which are already improved in that way. But this town, like many others in the north-western States and Territories, being in a great measure the creature of speculation, is in advance of the adjoining country, and its future progress is likely to be checked until the general settlement and improvement of the lands around it shall give it a new impetus. The population may be now about 4000.

Wisconsin was organised as a territorial government on the 4th of July, 1836. The legislature consists of a council of 13 members, chosen for four years, and a House of Representatives of 26 members, chosen

for two years. The governor and judges are appointed and paid by the federal government.

IOWA TERRITORY

Is bounded on the east by the Mississippi, and by a line extending from the source of that river to the Lake of the Woods, which river and line separate it from the Wisconsin Territory; on the north by the parallel of 49° from the Lake of the Woods to the Missouri, which line separates it from the British possessions; on the west and south-west by the Missouri river; and on the south by the parallel of $40^{\circ} 30'$, which separates it from the state of Missouri. The area is estimated at about 200,000 square miles.

This Territory, like that of Wisconsin, is level, and abounds in lakes. The principal rivers, besides the Mississippi and the Missouri, which form its eastern and western boundary, are the river *Des Moines*, the *Skunk*, the *Lower Iowa*, the *Turkey River*, the *Upper Iowa*, and the *St. Peter's*, all which have more or less of a south-east course, and flow into the Mississippi. *Red River* has a north course of 300 or 400 miles through the upper part of the Territory into the British possessions. The streams which discharge themselves into the Missouri are comparatively small, with the exception of the *Jaques*, or *James River*, which, after a south course of more than 400 miles, enters the Missouri nearly midway between Grand Detour and the Council Bluffs. None of these rivers have been yet accurately surveyed.

Both the soil and climate of Iowa are very similar to those of Wisconsin, and few parts of the western country are settling so fast as this Territory during the last two years (1838-9). The lead-mine region crosses the Mississippi, and constitutes a part of this Territory. The town of *Mineral Point* is the centre of the trade in this metal. The south-east part of the Territory is a fertile and pleasant country, which abounds in springs and mill-streams. None of the lands have yet been purchased; the settlers at present are all *squatters*.

In 1838 there were 16 counties laid off in Iowa, and the population, which was then about 22,000, is now supposed to be little short of 50,000. Burlington, in the county of Des Moines, is the seat of government; but it is still a small village. Iowa became a territorial government in 1838.

THE WESTERN TERRITORY.

Under this denomination is comprehended all the unsettled territory of the United States lying west of the Mississippi, and not included in the States of Louisiana, Arkansas, and Missouri, and the Territory of Iowa. It is estimated to contain about 600,000 square miles. Though the Indian title to considerable tracts of this country has been extinguished, the United States exercise no jurisdiction over any part of it, except at

new forts and military stations; and the whole is occupied by the rigines.

A portion of this territory, which has been purchased by the United States from the Indians, who originally occupied it, has been set apart for such of the tribes as were within the limits of any of the States, but the government is willing to remove to the west of the Mississippi. The government of the United States has made great exertions and incurred great expense to promote this emigration, because it was in some cases bound by treaty to guarantee to the Indians the quiet possession of the lands which they occupied, as well as the right of self-government. These relations they found an increasing difficulty in fulfilling, the States being impatient of an independent government within their acknowledged limits, and the Indians feeling an invincible repugnance to be subjected to the laws of the whites. The efforts of the general government have been finally successful; and all the Indian tribes in the southern and western States, which were sufficiently numerous to form distinct communities, not subject to the jurisdiction of the State authorities, are now settled on the country set apart for them on the west side of the Mississippi. This country extends from the western boundaries of Missouri and Arkansas to the Rocky Mountains, and from the north banks of the Missouri and of the La Platte to the southern boundary of the United States. It lies between $33^{\circ} 3'$ and $43^{\circ} 30'$ N. lat., and from $17^{\circ} 30'$ to 23° of west longitude from Washington. It contains 1,342 square miles: the whole number of Indians for whose residence it is allotted amounts to only 125,806 persons. The tribes which have territory thus assigned to them are (beginning at the southern limit, which is Red River) Choctaws, Seminoles, Creeks, Cherokees, Osages, Kickapoo, Shawnees, Quapaws, Piankeshaws and Weaws, Peorias and Kaskaskias, Ottowas, Kanzas, Delawares, Kickapoos, Ioways, Otoes, Saukas, Pottawatomies, and Pawnees.* A plan has been proposed in Congress, but has not yet been acted on, to provide for the tribes a general government on a plan of simplicity and economy suited to their present condition—to allow the confederacy thus formed to send a delegate to the Congress of the United States—and to admit the territory into

the Union whenever the measure shall be deemed eligible by both parties. Though the plan may not be adopted without opposition, it bids fair at present to receive the support of a majority. To the Indians it is understood to be highly acceptable.

The most considerable of these emigrant tribes, the Choctaws, Creeks, and Cherokees, have already made great advances towards civilisation. They practise husbandry; their wives spin and weave the wool and cotton which they have raised: they have both schools and churches. It remains to be seen whether they will continue to improve, and their example will win their neighbours to the habits of civilised life, or

* Their several numbers are given in Table XII.

whether their predilection for hunting and war will regain its former strength in their new settlements west of the Mississippi, and carry them back to barbarism. Present appearances are in favour of the first result. The Commissioners on Indian Affairs, in their Report to the Secretary of War in 1834, thus speak on this subject:—

“The removal of the Indians from the east to the west of the Mississippi has not had, as was anticipated by some, a deleterious and discouraging influence. It has stimulated them to action, and their condition has been greatly improved. They have built themselves comfortable cabins, such as are generally seen in our new settlements; opened small plantations, and that, sometimes, without any assistance or means except their axe and their hoe. This is very perceptible, especially with the Creeks and Choctaws, who are getting fine plantations; and those who have been in the country a few years already raise considerable produce for sale. They have also encouraged district schools, and a considerable portion of this expense is borne by the Indians themselves. The influence of the Gospel has also been very perceptible in elevating their moral character, and promoting habits of industry.”

II.—The Population of each State and Territory, with its decennial Rate of Increase, according to each Census, from 1790 to 1890.

STATES AND TERRITORIES.	1790.	1800.	Increase per cent.	1810.	Increase per cent.	1820.	Increase per cent.	1830.				Increase in 10 Years.	Increase in 40 Years.
								Whites.	Free coloured.	Slaves.	Total.		
Maine	96,540	151,719	57.1	228,705	50.7	228,335	30.4	204,263	1,190	2	399,455	34.	
New Hampshire	141,899	183,762	29.5	214,360	16.6	244,161	13.8	268,721	1,604	5	369,324	10.3	
Vermont	85,416	134,465	80.6	217,713	41.	235,702	8.3	279,771	7,048	..	290,652	19.3	
Massachusetts	379,717	428,245	11.6	472,040	11.6	528,286	10.9	603,330	3,361	4	610,408	16.6	
Rhode Island	69,110	89,122	0.4	77,031	11.2	83,059	8.	83,261	3,361	14	97,199	17.	
Connecticut	238,141	251,002	5.4	262,042	4.3	275,292	5.1	289,603	8,047	25	297,676	8.1	94.9
	1,009,823										1,934,717	..	
New York	340,120	586,756	72.3	959,019	63.6	1,372,112	43.1	1,873,763	44,870	75	1,918,608	39.7	
New Jersey	184,139	211,949	14.6	245,555	16.3	277,575	13.	300,266	18,303	2,354	320,266	15.5	
Pennsylvania	434,373	602,365	38.6	810,091	34.4	1,040,438	29.5	1,304,900	37,930	4,003	1,346,233	34.5	
Delaware	50,096	64,973	8.7	72,674	13.	72,749	..	57,601	15,855	3,292	76,748	5.5	
Maryland	319,728	341,548	9.3	380,546	8.8	407,330	7.	391,108	52,933	109,994	44,040	9.7	
District of Columbia . . . . .	..	14,093	..	24,093	61.1	33,039	..	37,563	6,152	6,119	39,834	30.5	
	1,387,456										4,151,346	..	910.4
Virginia	748,308	880,500	18.5	974,622	9.9	1,068,266	9.3	694,300	47,448	469,757	1,211,403	13.7	
North Carolina	383,751	478,103	21.3	555,500	16.2	634,829	15.	479,843	19,543	245,601	737,967	15.5	
South Carolina	949,073	845,561	38.7	415,115	20.1	502,741	19.1	357,862	7,921	315,401	591,185	15.6	
Georgia	82,548	162,101	79.	352,453	53.1	340,569	35.1	296,806	2,486	217,531	516,893	51.6	
Florida Territory . . . . .	..	..	..	..	..	..	..	18,385	844	15,501	34,731	..	
	1,473,690										3,089,131	..	108.9
Alabama . . . . .	..	..	..	20,845	..	120,845	..	190,406	1,572	117,549	309,527	142.	
Mississippi . . . . .	..	8,850	..	40,352	35.6	40,352	..	70,443	519	65,659	136,621	81.	
Louisiana . . . . .	..	..	..	76,536	..	170,536	61.5	89,231	16,710	109,583	315,599	40.6	
Tennessee . . . . .	..	103,602	200.	261,727	47.8	422,813	..	533,746	4,555	141,603	611,904	61.3	
Arkansas Territory† . . . . .	..	..	..	..	..	14,573	..	25,671	141	4,576	30,389	113.8	
	35,791										1,273,969	..	3794.7
	35,791										1,273,969	..	
Missouri . . . . .	..	..	..	20,845	..	66,536	288.	114,795	509	95,091	140,453	102.9	
Kentucky . . . . .	..	920,955	200.	406,511	92.9	564,317	39.	517,787	4,917	105,213	627,917	21.9	
Illinois . . . . .	..	..	..	12,282	..	65,211	33.1	135,061	1,637	747	137,405	185.1	
Indiana . . . . .	..	4,875	..	21,875	..	339,399	..	339,399	3,689	6	343,081	131.	
Ohio . . . . .	..	45,365	..	45,365	..	581,434	152.	924,389	9,578	32	933,963	61.3	
Michigan Territory† . . . . .	..	..	..	..	..	8,361	..	31,816	261	32	32,169	935.6	
	73,077										9,394,400	..	1040.8
TOTAL	3,923,827	5,205,925	37.6	7,329,214	30.4	9,454,133	28.1	10,517,578	119,008	8,009,048	14,526,626	14.2	3792.1

III.—The Population at each Census, distributed into White Persons, Free People of Colour, and Slaves, with their respective Rates of Increase in 40 Years.

Classes of Persons.	1790.	1800.	Increase per cent.	1810..	Increase per cent.	1820.	Increase per cent.	1830.	Increase in 10 years.	Increase in 40 years.
White Persons	3,172,464	4,304,489	36.3	5,862,004	35.9	7,861,937	34.1	10,537,378	35.1	233.8
Free coloured	59,466	108,395	82.3	186,446	72.	233,524	25.2	319,599	37.5	337.4
Slaves	697,897	893,041	27.9	1,191,364	35.8	1,538,064	29.1	2,009,043	31.2	189.2
Total free	3,231,930	4,412,884	36.5	6,048,450	37.1	8,095,461	33.8	10,856,977	34.7	237.6
Total coloured*	757,363	1,001,436	32.2	1,377,810	37.7	1,771,588	28.1	2,328,642	32.1	209.

* This class alone now shows the natural increase ; as the Whites receive accessions from immigration, and the free coloured from emancipation, as well as from multiplication, while the number of slaves is diminished by emancipation.

IV.—The Number of the People of Colour, bond and free, in the Slave-holding States, at each Census, with the Rates of Increase of the Whites. Free Coloured Persons, and Slaves, in 40 Years, and the Proportion of each Class in 100 Persons of the gross Population, by the Census of 1830.

STATES AND TERRITORIES.	1790.			1800.			1810.			1820.			1830.				Increase in 40 Years.			Proportion per cent.		
	Slaves.	Free co- loured.	Slaves.	Slaves.	Free co- loured.	Slaves.	Slaves.	Free co- loured.	Slaves.	Free co- loured.	Slaves.	Free co- loured.	Slaves.	Free co- loured.	Whites.	Free co- loured.	Slaves.	Whites.	Free co- loured.	Slaves.	Whites.	Free co- loured.
Atlantic States.																						
Delaware	8,887	4,177	6,153	8,268	4,177	13,136	4,509	12,958	3,292	15,855	27.9	279.6	Decr.	75.	20.7	4.3						
Maryland	103,036	8,043	105,635	19,587	111,502	33,927	107,398	39,730	102,994	52,938	41.3	558.2	Decr.	65.2	11.8	23.						
Virginia	293,427	12,766	345,796	20,124	392,518	30,570	425,153	36,889	469,757	47,448	57.	271.7	60.1	57.3	3.9	38.8						
North Carolina	100,572	4,975	133,296	7,043	168,824	10,266	205,017	14,612	245,601	19,543	151.2	192.3	145.6	61.1	2.6	33.3						
South Carolina	107,094	1,801	146,151	3,185	196,365	4,554	268,475	6,826	315,401	7,291	78.3	339.1	194.6	44.4	1.4	54.2						
Georgia	29,264	398	59,404	1,019	105,218	1,801	149,556	1,763	217,531	2,486	461.6	524.6	643.	57.2	.5	42.3						
District of Co- lumbia	..	..	3,244	783	5,395	2,549	6,377	4,048	6,119	6,152	..	..	..	69.2	15.4	15.4						
Florida Territory	..	..	..	..	..	..	..	..	15,501	844	..	..	..	50.8	.3	46.9						
Total Atl. States	642,280	32,160	..	..	..	..	..	..	1,376,196	152,557	92.5	374.4	114.3	58.0	4.2	37.8						
Western States.																						
Alabama	..	..	..	..	..	..	41,879	571	117,549	1,572	..	..	..	61.5	.5	38.						
Mississippi	..	..	..	..	..	..	32,814	458	65,659	519	..	..	..	51.6	.4	48.						
Louisiana	..	..	..	..	..	..	69,064	10,476	109,588	16,710	..	..	..	41.4	7.8	50.8						
Tennessee	3,417	361	13,584	309	44,535	1,317	80,107	2,739	141,033	4,555	1570.3	1162.	4047.	79.2	.7	20.1						
Missouri	..	..	..	..	..	..	10,222	347	25,090	569	..	..	..	81.	1.2	17.8						
Kentucky	11,350	114	40,343	741	80,561	1,713	129,732	2,789	165,213	4,917	740.4	4213.	1355.	75.3	.7	24.						
Arkansas Ter- ritory	..	..	..	..	..	..	1,617	59	4,576	141	..	..	..	82.	.4	17.6						
Total W. States	14,767	475	..	..	..	..	..	..	629,278	28,983	1549.2	41614.	6001.7	70.1	1.3	28.6						
Total	657,047	32,635	..	..	..	..	..	..	2,005,474	181,540	210.7	456.	202.2	62.7	3.1	34.2						

— New or Black.

AGES.	WHITES.		AGES.	FREE COLOURED.		SLAVES.	
	Males.	Females.		Males.	Females.	Males.	Females.
Under 5 years . .	972,980	921,934	Under 10	48,675	47,329	333,498	347,665
Of 5 and under 10 .	782,075	750,741	Of 10 and under 24 .	43,079	48,138	312,567	308,770
Of 10 and under 15	669,734	638,856	Of 24 and under 36 .	27,650	32,541	185,585	185,786
15 . .	573,196	596,254	Of 36 and under 55 .	22,271	24,327	118,880	111,887
20 . .	..	..	Of 55 and under 100 .	11,509	13,425	41,545	41,436
30 . .	..	..	Of 100 and upwards .	269	386	748	676
40 . .	..	..			
50 . .	..	..			
60 . .	..	..			
70 . .	..	..			
80 . .	..	..			
90 . .	..	..			
100 . .	..	..			
100 and upwards	..	..			
Total	5,355,133	5,171,115	Total	153,453	166,146	1,012,823	996,220

VI.—The Constitution of the *Legislative, Executive, and Judicial* Departments in each State, as to the mode of Appointment, Term of Service, and Compensation, in 1837.*

STATES.	Mode of Voting.	Legislature.				Executive.			Judiciary.				
		Senators.		Represent.		How chosen.	Term.	Governor's salary.	How appointed.	Tenure of office.	No. of Judges.		
		No.	Term.	No.	Term.								
												Daily pay.	Doll. Ct.	Dollars.	Dollars.
Maine . . .	By Ballot	25	1 year	186	1 year	{ By the } People	1 year	1500	{ By the } Legis.	For life	6	1800	
New Hampshire . . .	Ballot	12	one	230	one	People	one	1200	Re-elig.	For life	4	1400	
Vermont . . .	Ballot	none	one	230	one	People	one	750	Re-elig.	Annual	5	1175	
Massachusetts . . .	Ballot	40	one	{abt. } {500 }	one	People	one	3666 ² / ₃	Re-elig.	For life	8	3500	
Rhode Island . . .	Ballot	10	one	72	6 mths	People	one	400	Re-elig.	Annual	3	650	
Connecticut . . .	Ballot	21	one	208	1 year	People	one	1400	Re-elig.	For life	5	1100	
New York . . .	Ballot	32	four	128	one	People	two	4000	Re-elig.	{ Until } { 60 yrs. }	15	2000	
New Jersey . . .	Ballot	14	one	50	one	Legisl.	one	2000	Re-elig.	7 years	3	1200	
Pennsylvania . . .	Ballot	33	four	100	one	People	three	4000	Inel. after 9 years	For life	27	2000	
Delaware . . .	Ballot	9	four	21	one	People	three	1333 ¹ / ₃	Eli. 3 yrs. in 6.	Execut.	5	1200	
Maryland . . .	Ballot	15	five	80	one	Legisl.	one	3500	Re-elig.	For life	10	1500	
Virginia . . .	<i>via voce</i>	32	four	134	one	Legisl.	three	3333 ¹ / ₃	Re-elig. aft. 3 yrs.	Execut.	25	2750	
North Carolina . . .	Ballot	64	one	134	one	Legisl.	one	2000	Re-elig.	For life	9	2500	
South Carolina . . .	Ballot	45	four	124	two	Legisl.	two	3500	Re-elig. aft. 4 yrs.	For life	11	3500	
Georgia . . .	Ballot	90	one	185	one	People	two	3000	Re-elig.	3 years	10	2000	
Alabama . . .	Ballot	22	three	72	one	People	two	2000	Eli. 4 yrs. in 6	Legisl.	6 years	10	1750
Mississippi . . .	Ballot	12	three	59	two	People	two	2500	Re-elig.	For life	10	2000	
Louisiana . . .	Ballot	17	four	50	two	People	four	7500	Re-elig. aft. 4 yrs.	Legisl.	12	5000	
Tennessee . . .	Ballot	20	two	60	two	People	two	2000	Eli. 6 yrs. in 8.	Legisl.	17	1800	
Missouri . . .	Ballot	18	four	49	two	People	four	1500	Re-elig. aft. 4 yrs.	Execut.	10	1100	
Kentucky . . .	<i>via voce</i>	38	four	100	one	People	four	2000	Re-elig. aft. 7 yrs.	Execut.	19	1500	
Illinois . . .	Ballot	26	four	55	one	People	four	1000	Re-elig.	For life	4	1000	
Indiana . . .	Ballot	30	three	62	two	People	three	1000	Eli. 6 yrs. in 9.	Legisl.	7 years	10	700
Ohio . . .	Ballot	36	two	72	one	People	two	1200	Re-elig.	7 years	16	1200	

* Since that year the Arkansas and Michigan Territories have both become States. Various changes also have been made in the number of Senators and Representatives, and in the mode of election.

STATES and TERRITORIES.	Total Imports in 1883.	Foreign Produce re-exported.	Total Exports in 1883.	Tonnage in 1883.	Banks in 1884.		Miles of Canal.*	Miles of Railroad.
					No.	Capital.		
	Dollars.	Dollars.	Dollars.			Dollars.		
Maine	1,380,308	30,644	1,019,831	192,715	29	2,727,700	50.5	
New Hampshire	167,754	9,903	155,258	17,127	22	2,454,308	10	
Vermont	523,260	..	377,399	1,531	17	911,980	5	
Massachusetts	19,940,911	4,532,533	9,683,122	395,924	102	28,236,250	79.5	116
Rhode Island	1,042,286	154,612	485,481	40,607	51	7,438,848		46
Connecticut	352,014	..	427,603	52,879	21	5,708,015		
New York	55,918,449	9,983,821	25,395,117	319,210	78	30,906,460	706	236
New Jersey	170	1,900	32,753	33,144	26	2,500,000	173	105.3
Pennsylvania	10,451,250	1,407,651	4,078,951	88,162	41	17,084,444	870	362
Delaware	9,043	..	45,911	13,266	7	2,000,000	13.6	16.2
Maryland	5,437,057	761,453	4,062,467	80,708	20	9,270,091	127	130
Dist. of Columbia	150,046	21,450	1,002,816	17,286	8	3,355,625	6.4	
Virginia	690,391	8,053	4,467,587	43,778	4	5,694,500	60	258
North Carolina	198,758	49	433,035	32,142	3	1,824,725	30.5	
South Carolina	1,517,705	96,813	8,434,325	15,561	7	3,156,318	52.5	135.7
Georgia	318,990	..	6,270,040	8,651	13	6,534,691	16	12
Florida Ter.	85,386	192	64,805	3,003	6	1,000,000		
Alabama	265,918	5,740	4,527,961	7,240	5	4,308,207	53	62
Mississippi . . . . .	..	..	..	..	3	3,666,805	..	26
Louisiana	9,590,505	2,807,916	18,941,373	61,172	10	23,664,755	99	5
Tennessee . . . . .	..	..	..	3,047	3	2,242,827	..	
Missouri	5,881	..	..	925	3	1,875,418	1.5	80
Kentucky . . . . .	..	..	..	..	1	200,000		
Illinois . . . . .	..	..	..	..	1	150,000	70	
Indiana . . . . .	..	..	..	..	20	5,926,625	418	
Ohio	8,353	..	225,544	9,683				
Michigan Ter.	63,876	..	9,034	1,751	5	500,000		
Total	108,118,311	19,822,735	90,140,433	1,439,450	506	170,123,792	2837	1590.2

* This comprehends those canals which are not yet finished, but are in course of completion.

VIII.—The Amount of the Import and Export Trade with each Foreign Country and its Dependencies, in the Year 1833.

COUNTRIES.		Imports.	Exports.	COUNTRIES.		Imports.	Exports.
		Dollars.	Dollars.			Dollars.	Dollars.
1	England	36,668,315	31,035,411	8	TOTAL, brought forward	89,457,244	73,109,146
	Scotland	1,025,229	1,207,537		Netherlands	1,166,856	2,336,762
	Ireland	152,280	120,459		Dutch East Indies	750,290	774,941
	Gibraltar	199,508	737,646		— West Indies	360,871	342,543
	Malta	31,073	50,826		— Guiana	49,326	92,513
	British East Indies	1,832,050	391,989		TOTAL Holland	2,347,343	3,566,361
	— West Indies	1,358,339	1,814,063		Belgium	139,629	1,005,611
	— Guiana	7,448	4,732	9	Hanse Towns	2,227,726	2,963,396
	— American Colonies	1,783,303	4,471,081	10	Hayti	1,740,058	1,427,963
	Cape of Good Hope	13,700	7,562	11	Columbia	1,594,022	937,543
	St. Helena	..	7,864	12	Argentina Republic	1,377,177	1,097,724
	Mauritius	21,621	..	13	Sweden and Norway	1,168,697	314,849
	TOTAL Great Britain	43,085,865	39,782,210	14	Swedish West Indies	32,292	105,280
2	France, on the Atlantic	19,351,626	11,966,497		TOTAL Sweden and Norway	1,900,899	420,069
	— on the Mediterranean	1,080,052	1,805,724	15	Denmark	98,172	292,964
	Bourbon	19,993	9,554		Danish West Indies	1,138,700	1,546,876
	French East Indies	..	638,065		TOTAL Denmark	1,166,873	1,839,840
	French West Indies	511,242	4,093	16	Italy	999,134	372,186
	Guiana	..	..	17	Trieste	314,611	564,961
	TOTAL France	13,962,913	14,431,533	18	Sicily	165,714	9,063
3	Spain on the Atlantic	337,794	286,190	19	Peru	654,690	1,463,940
	— on the Mediterranean	806,714	136,696	20	Chili	334,130	675,906
	The Canary Islands	145,090	39,968	21	Central America	967,740	99,946
	The Philippine Islands	594,498	9,397	22	Honduras	101,615	351,368
	Cuba	9,754,787	5,672,700	23	Africa	441,369	78,643
	Other Spanish West Indies	1,679,324	..	24	Portugal	170,189	134,983
	TOTAL Spain	11,531,883	6,081,651		Madeira	219,349	21,915
4	China	7,541,570	5,433,739		The Azores	96,831	207,090
5	Mexico	5,432,818	5,408,021		Cape de Verde Islands	26,331	207,090
6	Brazil	5,089,693	3,272,101		TOTAL Portugal	565,137	449,661
7	Russia	2,772,550	703,805	25	Asia	909,425	537,194
	TOTAL, carried forward	89,457,244	73,109,146	26	Prussia	124,670	18,913
				27	Other parts	42,971	201,425
					TOTAL	1,000,139,334	1,000,139,334

IX.—The Annual Value of the Exports, and Amount of Tonnage, at three periods from 1791 to 1831, on an average of Three Years.

Classes of Exports and Tonnage.		Average from 1791 to 1793.	From 1810 to 1812.	From 1831 to 1833.
		Dollars.	Dollars.	Dollars.
Total Exports .	.	21,958,237	55,534,013	86,212,653
1. Domestic produce	.	No separate account of these items was kept at this period.	39,230,742	64,927,778
Produce of the sea	.		1,276,333	2,283,491
— of the forest .	.		4,321,667	4,532,537
— of agriculture	.		27,873,667	50,783,31
— of manufactures	.		2,266,333	6,259,075
2. Foreign produce re-exported	.		16,303,073	21,298,575
Tonnage domestic—tons	.	513,657	1,309,094	1,315,613
Foreign tonnage—proportion to the whole	.	39 4 per cent.	9.3 per cent.	22.5 per cent.

The Imports, so far as they have been published, exceed the Exports in value, on an average, about 10 per cent.

X.—The Number of Persons engaged in Agriculture, Manufactures, and Commerce, respectively, according to the Census of 1820; the assessed Value of the Lands and Houses in 1799 and 1815 the average Value per Acre in 1815, and the average Tax now paid by each Inhabitant into the State Treasury according to the most recent official statements since 1830.

STATES and TERRITORIES.	Number of Persons employed in			Value of Lands and Houses in		Value per Acre.	State Tax on each Inhabitant.
	Agriculture.	Manufactures.	Commerce.	1799. Dollars.	1815. Dollars.		
Maine	55,041	7,643	4,297	23,175,047	38,745,474	9 0	62
New Hampshire	52,384	8,699	1,068	16,723,873	32,461,120	18 0	34
Vermont	50,591	8,484	776	83,992,469	143,765,560	39 0	65
Massachusetts	63,461	33,466	13,301	11,066,358	20,907,766	34 0	18
Rhode Island	12,559	6,091	1,162	48,413,434	88,534,971	6 40	21
Connecticut	50,518	17,541	3,581	100,300,707	269,780,900	18 50	30
New York	247,648	60,038	9,113	36,437,890	95,899,333	35 0	17
New Jersey	40,881	15,941	1,830	102,145,900	273,120,900	29 0	60
Pennsylvania	140,801	60,215	7,083	6,234,414	13,449,370	13 0	19
Delaware	13,259	2,821	533	32,372,291	106,490,638	20 0	54
Maryland	79,135	18,640	4,771	71,225,128	165,608,199	4 15	36
Virginia	276,422	32,336	4,509	30,842,372	51,517,031	2 50	18
North Carolina	174,196	11,844	2,551	17,465,013	74,325,262	8 0	52
South Carolina	166,707	6,747	2,684	12,061,138	31,487,658	2 50	26
Georgia	101,185	3,557	2,139	..	..	..	65
Alabama	30,612	1,412	452	..	..	..	..
Mississippi	22,003	650	294	..	..	..	..
Louisiana	53,941	6,041	6,251	6,134,109	24,233,750	6 0	14
Tennessee	101,919	7,860	882	..	..	..	..
Terr. of Arkansas	3,613	179	79	..	..	..	..
Missouri	14,247	1,952	495	21,408,090	66,878,587	4 0	30
Kentucky	132,161	11,779	1,617	..	..	..	..
Illinois	12,395	1,007	233	..	..	..	..
Indiana	61,315	3,229	429	..	..	..	..
Ohio	110,991	18,956	1,495	..	..	..	..
Terr. of Michigan	1,468	196	392	..	..	..	..
TOTAL	2,170,646	349,506	72,493	1,631,977,247	1,631,657,224	..	..

STATES and TERRITORIES.	Presbyter. & Congreg.		Baptists.		Methodists.	Episcop.	Catholic.	Other Soci.	
	Churches.	Ministers.	Ch.	Min.				Churches.	Ministers.
Maine	172	111	222	145	104	75	21	Quakers, 30 societies.	Free-will Bap., 50 soc.
New Hampshire	162	125	90	68	123			Universal, 20 soc.	Quakers, 15 soc.
Vermont	195	118	125	78	121	63	19	Unitarians, 2 soc.	Unitarian, 140 soc.
Massachusetts	289	257	189	160				Universal, 46 soc.	
Rhode Island	10	10	20	17	438	180	58	Universal. and Reform.	Lutherans, 27 soc.
Connecticut	226	236	92	77				Dutch, 54 soc.	
New York	587	..	605	448	..	20	64	Reformed Dutch, 28 soc.	Quakers, &c.
New Jersey	85	..	61	53	252	71		Lutherans, &c.	German Ref., 73 soc.
Pennsylvania . . . . .	..	266	157	95	..	5	51	Lutherans, &c.	The same, 9 soc.
Delaware . . . . .	..	10	9	3	..	59	37	9	
Maryland . . . . .	..	17	34	21	121	..			
Distr. of Columbia	9	..	5	4	..	4	26	Lutheran, Quakers, &c.	Lutheran, 10 soc.
Virginia	104	100	435	225	168			Lutheran, 45 soc.	
North Carolina	126	..	332	165	..	3	26	.. ..	Christians, 28 soc.
South Carolina . . . . .	..	46	273	155	74			.. ..
Georgia . . . . .	..	31	509	206	39	2	26	.. ..
Alabama . . . . .	..	33	250	109	38			.. ..
Mississippi	25	..	84	34	42	8	26	.. ..
Louisiana . . . . .	..	4	16	12	..			.. ..
Tennessee . . . . .	..	80	413	219	174	2	26	.. ..
Arkansas . . . . .	..	..	17	..	..			.. ..
Missouri . . . . .	..	10	146	86	44	9	27	.. ..
Kentucky . . . . .	..	70	484	236	93			.. ..
Illinois . . . . .	..	13	161	107	95	25	16	Lutherans, &c.	Germ. Ref., 82 soc.
Indiana . . . . .	..	50	299	152	135			.. ..
Ohio . . . . .	..	213	280	142	..	5	9		
Michigan . . . . .	..	6	17	11	..				

* The numbers of ministers and churches do not all refer to the same year. They all are as recent as 1832. The blanks in this table do not mean that there are no ministers, &c., but only that the numbers have not been ascertained.

† This column comprehends only the travelling ministers. Those who are stationary are still more numerous, but they do not participate in the government of the Church.

XII.—The Colleges, Theological, Medical, and Law Schools in each State, with the Number of Students, &c., in each, and the Public Funds provided for Schools and Education generally.*

STATES and TERRITORIES.	Col- leges.	Professors, &c.	Students.	Volumes in Libraries.		Theological.		Medical.		Law.		Permanent School Funds.	Annual Tax for Schools.
						Sch.	Stud.	Sch.	Stud.	Sch.	Stud.		
Maine	2	18	263	16,600	1	6	1	80	..	..	..	Dollars. 137,878	
New Hampshire	1	10	156	13,000	..	..	1	100	..	..	..	..	101,356
Vermont	2	12	179	7,430	..	..	2	76	..	..	..	..	102,000
Massachusetts	3	46	577	60,350	3	228	2	167	1	40	..	..	163,929
Rhode Island	1	8	157	11,600	..	..	..	..	..	..	..	..	30,000
Connecticut	3	39	429	26,500	1	55	1	73	1	30	..	1,902,957	
New York	5	50	692	35,540	4	166	2	348	..	..	..	1,735,175	188,384
New Jersey	2	20	255	17,250	2	143	..	..	..	..	..	228,611	20,000
Pennsylvania	8	46	468	20,000	3	69	2	552	1	..	..	304,000	81,116
Delaware	1	3	..	..	..	..	..	..	..	..	..	170,000	
Maryland	4	48	315	20,600	..	..	2	180	..	..	..	142,063	21,699
Dist. of Columbia . . .	2	23	149	15,500	..	..	1	30	..	..	..	..
Virginia	5	30	450	22,000	3	150	1	40	3	72	..	1,590,823	
North Carolina	1	7	99	3,100	..	..	..	..	..	..	..	88,156	
South Carolina	2	14	89	13,000	3	22	2	150	..	..	..	500,000	37,000
Georgia	1	8	97	6,200	..	..	1	..	..	..	..	..
Alabama	1	6	101	3,000	..	..	..	..	..	..	..	50,000 & lands.	
Mississippi	1	..	..	..	..	..	..	..	..	..	..	..
Louisiana	1	4	15	3,350	..	..	..	..	..	..	..	..	40,000
Tennessee	3	9	136	8,300	1	22	..	..	..	..	..	400,000	
Kentucky	6	46	379	13,700	..	..	2	211	1	39	..	140,000	
Missouri	2	25	278	10,500	..	..	..	..	..	..	..	Lands.	
Illinois	1	5	8	1,200	..	..	..	..	..	..	..	Lands.	
Indiana	2	10	69	600	..	..	..	..	..	..	..	Lands & 60,000	
Ohio	5	32	323	11,100	1	42	2	119	1	..	..	169,460 & lands.	Ad valorem tax.
TOTAL	65	519	5,489	337,420	23	903	22	2127	8	181			

Treaties with the United States from those which have not.

Indians East of the Mississippi.

Tribes.	States, &c.	No.
Appalachicola	Louisiana	340
Cayugas	New York	128
Cherokees	Tennessee	6,000
	North Carolina	18,000
	Georgia	15,000
	Alabama	6,800
Chippewas	Wisconsin	5,300
— and Ottawas	Lake Michig.	7,400
Chickasaws	Mississippi	3,600
Choctaws	Mississippi, &c.	3,500
Creeks	Alabama, &c.	22,264
Conowaugas	New York	73
Delawares	Louisiana	3,170
Menomones	Michigan T.	1,100
Miamies	Illinois	1,153
Ojibwas	New York	400
Onondagas	Green Bay	480
Ottawas	New York	340
Pottawatomies	Indiana, &c.	3,000
	Wabash	298
	New York	2,242
St. Regis	Florida, Georgia, &c.	5,000
Senecas	Green Bay	3,280
Seminoles	New York	278
Stockbridge	Ohio	575
Tuscaroras	Virginia	47
Wyandots	South Carolina	450
Nottoways	Maine	925
Pennamquidies	Massachusetts	750
Marshpines, &c.	R. Island	420
Narragansets	Connecticut	400
Mohicans, &c.		
Total		90,858

* Indians West of the Mississippi with whom the United States

Have Treaties.	No.	Have no Treaties.	No.
Appalachicola	265	Arapahos	4,000
Cherokees	3,000	Assinibons	1,000
Cheyennes	6,000	Blackfeet	10,000
Choctaws	2,000	Caddos	800
Creek	15,000	Callapewas	2,000
Crows	9,450	Camaniches	7,000
Delawares	4,500	Cathlamets	300
Forbes	830	Chillicothe	2,300
Kansas	1,600	Chippewas	40
Kaskaskias, &c.	1,440	Chickasaws	41
Kickapoos	130	Shoshones	15,540
Loways	513	Skaddais	2,000
Madians	1,100	Skelsensish	1,460
Minifares	1,500	Tushshepals	700
Omahas	1,400	Wahowpums	200
Osaiges	5,500	Wallawoolahs	1,603
Ottawas	200	Wappatoos	5,493
Ottos and		Wheelpegs	2,500
Missourias		Total	136,130
Pawnees	1,600		
Poncas	11,000		
Quapaws	800		
Sacs	4,800		
Senecas of Sand.	251		
Senecas and	1,461		
Shawnees	27,500		
Sioux	334		
Pankshaws	4,591		
Winnebagoes			
Total	102,310	Total carried forward	93,020

* Most of the estimates in this enumeration are conjectural, but judging from past experience, they are more likely to exceed the truth than to fall short of it.

Summary:

East of the Mississippi	90,858
West in treaty with the U. S.	102,310
Not in treaty	136,100
Total number	329,268

Those marked in Italics in the two first columns have agreed to accept the lands provided for them west of the Mississippi.

XIV.—Showing the Progress of the Post Office in 45 years, and of the Periodical Press, in 60 years—to 1834.

Years.	Post Office.		Periodical Press.		
	No. of Offices.	Miles of post road.	Newspapers.	Daily Papers.	Monthly, &c. Journals.
1775	.. ..	.. ..	37		
1790	75	1,875			
1800	903	20,877	200	27	26
1810	2,300	36,406	359		
1820	4,500	72,492			
1828	.. ..	.. ..	851	.. ..	{ included in the new- papers. 130
1830	8,450	115,176			
1834	.. ..	.. ..	1,265	90	

Of the above *Newspapers*, in 1834, 259 were published in New England; 567 in the Middle States; 115 in the Southern States; 97 in the South-western States, and 227 in the North-western States.

The *Journals* were distributed among the same States as follows:—45-78-443.

There were 121 of these *Newspapers* and *Journals* devoted to Religion.

49 — to Literary and Miscellaneous objects.

12 — to Agriculture.

8 — to Medicine.

3 — to Law.

193

1202 to News and Politics.

1395

The chief authorities relied on for the facts in the preceding pages, independent of personal knowledge, are—

For Local and Topographical Facts,

Goodrich's Geography,
Darby and Dwight's Gazetteer,
Darby's View of the United
States,

Flint's Geography,
Encyclopædia Americana,
Morse's Gazetteer,

Tanner's Maps,
Carey's Atlas,
Volney's Views of the United
States,

Spafford's Gazetteer,
Picture of New York,
—— of Baltimore,
Annals of Philadelphia,
Jefferson's Notes on Virginia,
Virginia Gazetteer,
Drayton's South Carolina,
American Philosophical Transac-
tions,
Long's Expeditions,
Lewis and Clark's Expedition.

For Statistical Facts.

The Census of 1790, &c., as revised and corrected at the office of the Secretary of State; Seybert's Statistics; Pitkins; American Almanac, Boston; Reports to Congress; MS. Communications from Members of Congress; Sherwood's Georgia Gazetteer; Tanner's Canals and Railroads; Annals of Education; Report of Indian Commissioners in 1834; Waterton's Tables, &c.

BRITISH NORTH AMERICA.

THE Territory which Great Britain claims in North America is situated between $42^{\circ} 50'$ N. lat. and the Icy Sea, and between 52° and 141° W. long.

This extensive country, reaching from the shores of the Atlantic to the Pacific Ocean, and from the northern frontier of the United States to the Icy Sea, is only partially settled: the largest part of it has a climate too severe to allow the successful prosecution of agriculture, and is only known through the reports of adventurous travellers and of the hunters who traverse these regions in order to procure the skins of fur-bearing animals.

The southern boundary of British America is formed by the territory of the United States. The line of demarcation is not yet satisfactorily defined in some points, particularly on the north-east boundary. The arbitration of the King of Holland, whose award was given on the 10th of January, 1831, has not yet settled the question. (p. 242.)

Following the provisions of the treaty concluded between the British and the United States in 1783, and which was founded on the assumption of physical facts, which are found to be erroneous, the boundary-line as claimed by Great Britain may be thus defined:—Entering the River St. Croix, in Passamaquoddy Bay, in $45^{\circ} 10'$ N. lat., and $67^{\circ} 15'$ W. long., it follows the course of that stream to its source in $45^{\circ} 48'$ N. lat. Proceeding thence in a line due north for 41 miles to Mars Hill, it reaches the supposed high lands which separate the rivers that empty themselves into the St. Lawrence from those which fall into the Atlantic Ocean. Taking thence a westerly direction, the line proceeds with a somewhat irregular course along those high lands until it reaches the most north-western source of the River Connecticut; it then descends that river to the 45th degree of north latitude, along which parallel it continues in a right line westerly until it strikes the River St. Lawrence, known in that part of its course as the Cataraqui, or Iroquois. The spot where the boundary-line thus strikes the Cataraqui is at the village of St. Regis, situated at the western extremity of Lake St. Francis. The line then proceeds in a south-west direction through the middle of the Cataraqui, into Lake Ontario; divides that lake into

two nearly equal portions, and passing along the River Niagara, into Lake Erie. From Lake Erie it passes northward through the River Detroit into Lake St. Clair, and through the River St. Clair into Lake Huron at its most southern point. It passes out of the Huron at its north-western extremity between Drummond and Cockburn Islands, and runs through the Narrows to the west of the Island of St. Joseph into Lake Superior, which it crosses with a winding course so as to leave Isle Royale within the limits of the United States. Quitting Lake Superior by Pigeon River, the boundary-line stretches westward to the north-west angle of the Lake of the Woods in 49° N. lat., $94^{\circ} 25'$ W. long.; it thence proceeds due west along the same parallel to the Rocky Mountains, and continues south along that range of mountains to $42^{\circ} 50'$ N. lat., when it again takes a course due west to the Pacific Ocean. (p. 198.)

The right to the territory west of the Rocky Mountains is one of the points still unsettled between the governments of Great Britain and the United States of North America. By the third Article of the Convention between the two countries signed in October 1818, it was provided, that this country should remain free and open to the vessels, citizens, and subjects of the two powers, for the term of ten years from that time, without affecting thereby the claims which either party might have to any portion of such country.* The term thus limited has expired, but no partition of the territory has yet been agreed upon, nor has any approach been otherwise made to the settlement of the question.

A part of the north-west coast of America bordering on the Pacific Ocean is claimed by Russia. This portion is bounded on the east by the meridian of 141° W. long. It also comprehends a narrow strip of the coast, and the adjacent islands, from $54^{\circ} 40'$ N. lat., as far as 141° W. long.

For prosecuting the traffic in furs, an English company was incorporated by Royal Charter in the reign of Charles the Second, A. D. 1670, and continues in active existence to this time, under the title of "The Hudson's Bay Company." To this association an extent of territory was granted, the boundaries of which were not very satisfactorily defined. This point was of little consequence at that time, but it afterwards proved the cause of serious and long-continued disputes between the Company and a rival association, called the North West Company, which was established in 1783. The lands granted to the Hudson's Bay Company were declared to comprehend all districts in which was contained the source of any stream which discharges its waters into Hudson's Bay. The union formed in 1821 between this company and the North West Company has greatly enlarged its territorial limits, so

* As to the Convention of Russia with the United States, see p. 198.

it now claims a kind of proprietorship over the whole of British America, with the exception of the settled provinces or governments. Notwithstanding the stations which have been formed in different and distant spots, the interior country must be considered as little better than a hunting-ground, with perhaps the exception of a district about the Red River of Lake Winnipeg, which has been sold by the Hudson's Bay Company to Lord Selkirk, and which is assuming the form of a European settlement. This extensive tract of country, with the exception of the Provinces, is sometimes called the North-West Territory: it might be appropriately called the Hudson's Bay Territory. It forms the northern part of the Great Central Plain of North America, the physical divisions of which have been already described. (p. 97, p. 13.)

The most eastern portion of the Hudson's Bay Territory is the Peninsula of Labrador, lying between 50° and 63° N. lat., and between 60° and 79° W. long. This peninsula is bounded on the north and east by Hudson's Strait and the Atlantic Ocean, and on the west by Hudson's Bay: its southern boundary is formed by the Gulf of St. Lawrence and the province of Lower Canada. The general description of this country has already been given. (p. 100, No. 14.) It is traversed by numerous streams which rising in the interior empty themselves, some into Hudson's Bay, and some into Hudson's Strait; others have their outlets on the shores of the Atlantic and in the Gulf of St. Lawrence, of which the chief is the Saguenay, (p. 100.); the coast is indented by numerous inlets or bays, and bordered by many small islands.

Until the middle of the last century, the coast of Labrador was very little known; but in consequence of the Newfoundland fishery being partially extended in that quarter, some slight knowledge of it was obtained. Abundance of salmon and cod-fish is found in the bays and rivers. The coast has a barren and iron-bound aspect; the rocks rise suddenly from the sea, and are scantily covered with a black peat-earth, which bears a stunted vegetation.

The rivers and lakes of the peninsula abound with fish, and are frequented by large flocks of birds. The islands off the coast are likewise the resort of eider-ducks and other sea-fowl. Some among them contain deer and various fur-bearing animals, such as hares, beavers, and martens. The shores, both of these islands and of the peninsula, are frequented by seals.

The whole district is very thinly inhabited by tribes of Esquimaux Indians, for whose moral and religious instruction a settlement of Moravian Missionaries has been formed at Nain, near Unity Bay, on the eastern coast, in 57° N. lat. This settlement is supported from the funds of the Society of United Brethren in London.

Hudson's Bay is a large inland sea (p. 101), the entrance lies between Cape Chidley and Resolution Island, the former in the latter in $61^{\circ} 30'$ N. lat., and both in 65° W. long. The on its eastern shore, which forms part of the Peninsula of Labrador called East Main; that on the western side is known as New Wales.

The navigation along the coast of East Main is intricate and ous, owing to numerous small islands. James's Bay is likewise studded with islands.

Near the bottom and on opposite sides of James Bay, $52^{\circ} 25'$ are East Main Factory and Albany Fort, two trading stations of Hudson's Bay Company. Between these places are the outlets of rivers whose sources are in lakes situated from 200 to 300 miles. The largest of these streams are Albany, Moose, Harricanaw, and East Main Rivers. From the last, which terminates at the of that name, a communication is kept up through various small lakes with Lake Misstissiny, in $50^{\circ} 40'$ N. lat., and 250 miles distant from Hudson's Bay. Albany, the largest of these rivers, source in Lake St. Joseph, about 320 miles distant from its mouth, direction nearly due west.

New South Wales is better known than Labrador. It abounds in lakes and rivers. Seal River enters Hudson's Bay in $59^{\circ} 25'$; the mouths of Pauk-a-Maukus-Kaw and Churchill Rivers are a few miles further south. The Severn River falls into the Bay in 56° at its mouth is Severn Factory, one of the trading stations of Hudson's Bay Company. Hayes and Fort Nelson Rivers enter the Bay in 57° N. lat. On the west bank of Hayes's River, between Fort Nelson River, and 5 miles from its entrance into the Bay is York Factory, the principal trading station of the Company. The country around this settlement is flat and swampy. It was formerly covered with trees, which have been greatly diminished by the use of the for fuel among the residents. The soil is alluvial clay, and rounded stones. The Company has established other trading posts in the interior, which are resorted to by the Indians for the sale of peltries. The fur-bearing animals having decreased in number of the great numbers which have been taken, the Indians of this country are gradually exchanging the employment of hunting for that of agriculture.

The country to the west of the tract along the shores of the Bay is intersected by numerous rivers, and contains many large lakes. The rivers contain many falls and dangerous rapids, which interfere with navigation, and consequently lessen their utility for commerce; but still they greatly facilitate the means of traversing the inhospitable regions. This tract has been already generally described (p. 97, No. 13, &c.).

Lake Winnipeg, which may be considered as occupying an extensive level, receives numerous streams, which flow into it as to a common centre from almost every point of the compass.

Besides the Saskatchewan (p. 99), which enters Lake Winnipeg, and issues from it under the name of the Nelson River, there are the Assiniboin, and the Red River of Lake Winnipeg, which may be so called to distinguish it from the Red River of the Mississippi, which collect their waters from various remote sources, and, forming a junction between 30 and 40 miles south of Lake Winnipeg, pour their united waters into that extensive basin. The course of the Red River is north, and the greatest part of it is within the limits of the United States; the course of the Assiniboin is south and then east, and it is entirely within the Hudson's Bay Territory. This district contains the tract which was sold by the Hudson's Bay Company to Lord Selkirk, and settled by him: this tract originally contained upwards of 115,000 square miles; but a considerable part of this territory was declared, in 1818, to be within the limits of the United States. The boundary of Lord Selkirk's purchase was originally described by a line commencing in $52^{\circ} 30'$ N. lat., on the western shore of Lake Winnipeg, and running due west to Lake Winnipegosis; then southward through that lake to its western shore in 52° N. lat.; then west to the Assiniboin River; again due south to the watershed of the Missouri and the Mississippi on the one side, and of the basin of Lake Winnipeg on the other; thence easterly along that watershed to the source of the river Assiniboin; then down that river, and through the Lake of the Woods and Winnipeg River to the place where the line begins. That part of the district thus circumscribed, which is south of 49° N. lat., now belongs to the United States. The colony established by Lord Selkirk on the Red River was chiefly composed of settlers from the north of Scotland, who were taken out in the ships of the Hudson's Bay Company. The opposition of the late North-West Company, and the hostility of the Indians, were for some years very unfavourable to the colony; but since the North-West has merged in the Hudson's Bay Company, the colony has had a general course of prosperity. The settlement is said at present to contain two or three thousand inhabitants; Scotch Highlanders, old servants of the Hudson's Bay Company (Canadians and Europeans), some of whom have taken Indian wives, Indians, and some half breeds. Two churches have been built, and are said to be well attended. The colony is the residence of the governor appointed by the Company over all their concerns in these parts. The winter is very severe in this district, but the soil of the colony is good and the crops are abundant. The settlers procure cattle and sheep from the United States by the Mississippi; and they occasionally hunt the buffalo, which periodically visits the plains.

The character of the country which belongs to the basin of Lake

Winnipeg is different from that which lies between it and the Rocky Mountains. From Hudson's Bay to Carlton House, northern branch of the Saskatchewan (about 200 miles above Carlton House), it is a country of swamps, lakes, and woods. From Carlton House to the Mountains extends the table land, which, at the foot of the Rocky Mountains, attains a considerable elevation: snow is experienced in the passes of the mountains, near the source of the Saskatchewan, in the month of August. Shocks of earthquakes have been felt in this part of the Rocky Mountains. Between the two branches of the Saskatchewan commence those vast and woodless prairies which reach southwards to the Missouri. (p. 98.)

The basin of the Mackenzie River, which forms the northern part of the Great Central Plain, is described in a previous part of this work (p. 99); and the general character of the most north-eastern part of the American continent, lying between the lower part of the Mackenzie River and Hudson's Bay, has been already described (p. 101, *Highlands*, and p. 102, No. 15).

In its general character British North America must be considered a level country. It contains few hills, and those generally of inconsiderable height, with the exception of the Rocky Mountains (p. 80). Dr. Richardson, the companion of Franklin, notices a formation of primitive rocks, slightly elevated above the general level of the country, which appears to run northward from near the west end of Lake Superior, with a slight inclination towards the Rocky Mountains, and attains the east side of Great Bear Lake. In 50° N. lat. this range, and that of the Rocky Mountains are nearly 700 miles apart. At this point, and as far as 60° N. lat., the space between the two ranges is principally occupied by horizontal strata of limestone.

Little precise information has been obtained as to the soil throughout this extensive territory; but a large part of it has a climate friendly to vegetation, that even the hardiest forest trees are able to withstand its rigour. But with respect to the southern part there is reason to hope that a large breadth of land may be profitably cultivated; and even in spots where the winter is now too long to be successful in agriculture, it may be expected that a considerable time would be added to the season for agriculture, by clearing the land and thus exposing it to the sun's rays. Experience has shown that in spots which have been cleared for cultivation, the snow disappears a month earlier than in the surrounding woods. In climates where the summer is short, the progress of vegetation is proportionally accelerated. In many spots, on the southern border of this territory it is possible to sow grain earlier than May, and yet the produce is harvested in the middle of August.

The numerous lakes and rivers by which this country is intersected contain abundance of various kinds of fish; such

which are very large, carp, trout, perch, sturgeon, and eels. The white fish (*poisson blanc* of the French), which is very abundant in the lakes, and other large fish, the native Indians are accustomed to take by spear-fishing them, in which they show great dexterity. The white-fish is the most esteemed of all the fish of the Indian lakes; it usually weighs from three to four pounds, but sometimes it is much larger. Some lakes contain sturgeon.

For the greatest part of the year fish forms the principal article of food in the Indian territory, not only for the natives, but also for the white settlers in the stations of the Hudson's Bay Company. The traders at Cumberland Fort are supplied principally from Bear Lake, about fifty miles from the fort. The fishing there begins with the first frosts of autumn, and continues until January. Franklin states that in the season preceding his visit this station was supplied from Bear Lake with about 3000 fish, averaging three pounds each, in addition to which some sturgeon were procured from Pine Island Lake.

Three fish of the size just mentioned "is the daily allowance of each man at the Fort," and is considered as equivalent to two geese, or eight pounds of solid moose meat. This quantity of solid food will not appear excessive, if we bear in mind that it is not accompanied by bread or fresh vegetables.

A considerable part of the subsistence of the traders is also furnished by the birds which, at certain seasons, resort to these latitudes. There are golden plovers, Canadian gros-beaks, woodpeckers, white partridges, and grouse. The grouse is very abundant on the coast in winter, and is the chief fresh provision of the season, with occasionally a little venison. The large flocks of wild geese and ducks come from the south in the spring, at the melting of the snow and ice, and advance a long way to the north, where they lay their eggs, and whence they return in the autumn towards the south, with their young ones, at which time they are killed in great numbers. The geese are salted and stored up for winter use.

The animals which are hunted for food are the moose or elk, reindeer, red-deer, jumping-deer, and long-tailed deer, the buffalo or bison, which inhabits the plains, and a species of antelope. There are also rabbits and porcupines: when fat, the porcupine is as good as a roasting pig.

The skins of the fur-bearing animals form the principal traffic of this country. The animals are various kinds of foxes, black, silver, cross, red, and blue foxes; white bears on the coast, and black, brown, and grisly in the interior; minks, otters, martens, and beavers. These skins, and more particularly those of the beaver, form the standard of exchange in all trading transactions with the native Indians. According to Franklin, "a coarse butcher's knife is valued at one skin; a woollen blanket, or a fathom of coarse cloth, at eight; and a fowling-piece at

fifteen. The Indians receive their principal outfit of clothing and ammunition on credit in the autumn, to be repaid by their winter hunt; the amount entrusted to each of the hunters varying with their reputations for industry and skill, from twenty to one hundred and fifty skins. The value affixed to these skins by Indian hunters bears only a small proportion to their prices in the markets of Europe.

Cultivation has been only very partially attempted within the Indian territory, and is confined to inconsiderable spots in the immediate vicinity of the Company's stations. Potatoes are successfully grown, and the quality is said to be nearly as good as those grown in England. Vegetables also have been brought to perfection by the traders. In a sheltered and fertile spot at Carlton House, on the north branch of the Saskatchewan, (52° 50' N. lat., 106° 12' W. long.) Dr. Richardson found a few acres planted with wheat, barley, oats, and potatoes, besides excellent pasturage. This post is maintained principally for the sake of the provisions which are there collected.

Some kinds of the cherry-tree are found as far north as Great Slave Lake. One of these kinds, from its astringent taste, has acquired the name of *choke-cherry*; another is said to bear a bright red cherry of a pleasant sweet taste. Several varieties of currants and gooseberries are also found in some localities, as well as strawberries, raspberries, and cranberries. Red whortle-berries are very common, and are most abundant in rocky places.

The aspen grows in moist situations, and is most abundant on the banks of the Saskatchewan: it is much used for fire-wood. The *populus balsamifera* is also plentiful; the bark of this tree is rough, the stem naked, and the branches distorted, from which circumstances it has obtained the name of the ugly poplar. This tree does not answer so well as the aspen for fire-wood, but yields abundance of potash. Many kinds of pine are also indigenous, of which the white spruce is the most common. The red and black spruce, the balsam of Gilead fir, and the Banksian pine, are also frequently seen. Larches occur only in swampy spots, and are stunted and unhealthy. The alder abounds on the margins of lakes, and a great variety of willows grow on the banks of streams. The hazel is also occasionally found. The sugar-maple, elm, and ash, and the arbor-vitæ, which the Canadian traders call the cedar-tree, are met with south of the Saskatchewan, which appears to form their natural boundary.

As we advance towards the pole, the trees become more stunted, and one by one disappear: beyond 68½° N. lat. not a tree is to be seen. Even for some degrees south of that line, sterility is the characteristic of the soil. Lichens and mosses indeed cover some of the hills, and an arid grass sometimes grows thinly on the marshy bottoms, but the plains are for the most part either covered with rough sharp stones, or consist of clay flats which are just as barren.

It will be sufficient to notice the chief tribes found within the limits of British North America. The Chippeways are mostly found in the country between Lakes Winnipeg and Superior. The Assiniboin inhabit the high plains along the base of the Rocky Mountains. The Crees frequent the shores of Hudson's Bay, between 51° and 59° N. lat., and are spread through the country to the westward as far as the Saskatchewan. The Indians who inhabit further to the north are denominated Slave Indians by the other tribes, which name has been given to them by way of opprobrium. The Esquimaux Indians are found in the peninsula of Labrador, as well as in the country north and west of Hudson's Strait and Hudson's Bay, and they occupy, or to speak more correctly, wander over a very great extent of territory.

The Assiniboin or Stone Indians, are pleasing in their appearance; their features are good and their figures are well proportioned. They are of a light copper colour and have a profusion of long black hair. Their dress consists of a leathern vest and trousers, over which a robe of buffalo-skin is thrown. These leathern garments are generally clean and are whitened with a kind of marl. The men usually carry a bow and arrow in the hand, and have a quiver of arrows hanging at the back. They sometimes possess a gun. These Indians are said to be treacherous and dishonest, as well as cruel. Their intercourse with Europeans for the most-part consists in the exchange of meat for tobacco, knives, ammunition, spirits, and beads, with coral bells, and other simple articles for personal adornment. The Stone Indians are in amity with the Crees, but both unite in making war upon the Slave Indians, who much resemble the Stone Indians in the sterner parts of their character. The Stone Indians, who live in the plains north of the Saskatchewan, are a stray branch of the Stone Indians, who live between the forks of that river. They speak the same language as the Sioux, who live on the Missouri and Mississippi; the language is said to be a dialect of the Iroquois or Huron; but, however this may be, the Iroquois differs from it in having no labial letters.

The Crees were formerly a very numerous and powerful people. About sixty or seventy years ago they, in common with many other Indian nations, suffered greatly from the small-pox; but their numbers have again considerably increased since that calamity. They occupy the country from Hudson's Bay to the plains at the base of the Rocky Mountains; and their territory is almost entirely covered with forests, consisting of the pine, the larch, and the birch. The Crees are the natives of the forest, as the Assiniboin, Blackfoot, and Blood Indians are of the plain. The plain Indians have numerous horses, which are trained to hunt the bison, and many of them still use the bow and arrow. The Crees have laid aside their bows and arrows and now use the gun, which makes them dependent upon Europeans. They are active and successful hunters, and have acquired a better character for honesty than the other tribes. They

are hospitable to each other and to strangers, comparatively kind and considerate to their women, and inclined to be at peace with other tribes. A large portion of labour falls to the share of their women, who build huts, cook, dress skins, and carry loads; but the men do not, like some other tribes, consider it unbecoming their dignity to assist their families when wearied or overburthened. Both sexes are excessively indulgent to their children. The Crees endure pain and privation with great fortitude; they never resent an injury but when they can take revenge.

The Crees have been much debased by the use of spirituous liquors, which Europeans have rather encouraged than repressed. But since the North-West and other trading companies have merged in the Hudson's Bay Company, this evil is diminished by the regulations of the Company.

The Esquimaux Indians are short in stature and generally stout. Their faces are broad and flat and their eyes small. The younger members of the tribes are rather pleasing in their appearance, but, owing probably to the hardships inseparable from the ungenial climate and their precarious supply of food, they soon lose their good looks and exhibit premature symptoms of age. The dress of the men consists of a jacket of seal-skin and trousers of bear-skin, with a cap made of the skins of foxes. The women's dress is made of the same materials, but fashioned rather more in accordance with our notions of female attire.

Early travellers who encountered some wandering tribes of Esquimaux have described them in very unfavourable colours, representing them as cruel, treacherous, and dishonest. Later accounts are more favourable to their characters. The arctic voyagers of our own times have found them hospitable and kind-hearted, although without sufficient respect for the rights of property, while Mr. Cartwright, who resided in Labrador during sixteen years, declares that they are the best tempered, the most docile, and the most honest people that he ever met with.

As regards their religious opinions, the aborigines of this part of North America appear to acknowledge the existence of a Supreme Being, and to believe in the immortality of the soul. Before undertaking any important business, the Crees always address a prayer to the Deity, which is listened to in respectful silence. The tribes which frequent the trading posts of the Hudson's Bay Company number among their families many *half-breeds*, the offspring of white men and Indian women. These children are for the most part brought up by the mother to follow the customs of her tribe, and are abandoned by their fathers. Many of the Canadian and European settlers at Lord Selkirk's colony have Indian wives, with whom they live.*

[The remainder of British North America is divided into the provinces or governments of Prince Edward Island, Newfoundland, Nova Scotia and Cape Breton, New Brunswick, and Lower and Upper Canada.]

* We are indebted for some remarks on this extensive country and the natives to Mr. Howe of Cirencester, who was for many years in the service of the Hudson's Bay Company in these parts.

PRINCE EDWARD ISLAND.

Prince Edward Island in the Gulf of St. Lawrence is situated between $45^{\circ} 55'$ and $47^{\circ} 7' N.$ lat., and between 62° and $64^{\circ} 24' W.$ long. It is separated on the south and west from Nova Scotia and New Brunswick, and on the east from Breton Island, by Northumberland Strait, the distance between the island and the main land being in some places not more than eleven miles. The extreme length measured in a curved line through the centre of the island is 140 miles. The shore is deeply indented by bays, two of which, Hillsborough Bay and Richmond Bay nearly penetrate across the island. The greatest breadth is 35 miles, and the area 2133 square miles.

This island was discovered by Cabot on the 24th of June, 1497, and thence named St. John's Island, which was changed by the Colonial Legislature in 1799 to that which it now bears, in honour of the late Duke of Kent, then Commander in Chief in British America.

Prince Edward Island is generally level. It contains no mountains, and the only hills consist of a chain beginning at Grenville Bay and crossing the island from north to south, till it ends at Disable. Vegetation reaches to the water's edge, and the shores contain numerous villages and thriving farms. Almost every part of the island shows marks of its fertility and of the prosperity of the settlers. The whole island has been surveyed, and only a very inconsiderable portion now remains ungranted.

The island contains numerous rivers. The most considerable is Hillsborough River, which rises near the north-eastern coast, a short distance from Savage Harbour, and following a south-westerly course for 30 miles, widens and receives many tributary streams as it flows, until it falls into Hillsborough Bay at Charlotte Town. The banks of this river are occupied by flourishing farms, behind which there is still much uncleared land heavily timbered.

York River meets the Hillsborough at Charlotte Town. The source of this stream is about 5 miles south-west of the town; the course is about 10 miles, through the whole of which the banks are settled. Elliot River also falls into Hillsborough Bay. Its source is west of Charlotte Town, towards which it flows, first in a south-east, and then in a north-east direction, joining the bay a mile below Charlotte Town.

Three other rivers, the Cardigan, the Brudenelle, and the Montague, enter the sea on the east coast at George Town, forming by their confluence the port of that town. The sources of these streams are at a short distance from the coast. Boughton River has its mouth a few miles north of George Town; and twelve miles south of that town is Murray River, which falls into a harbour of the same name at the south-east extremity of the island. Near the north-west end of the island

Foxley River falls into Holland Harbour. This stream issues from a lake about eight miles from its mouth.

The island is divided into three counties, of which King's County occupies the east and south, Queen's County the middle, and Prince's County the north and west portions of the colony. These counties are subdivided into 14 parishes, of which King's County has four, and the other two counties five each. These parishes are again parcelled out into townships, of which there are 67 on the island, each comprising on the average 23,000 acres, few being either much beyond or below that extent.

Charlotte Town, at the confluence of Hillsborough, York, and Elliot Rivers, in Hillsborough Bay, Queen's County, is the seat of government. The harbour is considered equal to any in the Gulf of St. Lawrence. The town is built on the north bank of the Hillsborough, and contains about 300 dwellings, with a population of above 2000 persons. The streets are wide, and intersect each other at right angles. It contains a court-house, in which the judicial and legislative business of the colony is conducted. Most of the houses have gardens of several acres attached to them. The spot is well chosen as the capital of the island, of which it forms nearly the centre, while it is easy of access both by land and water.

George Town has an excellent harbour, which enjoys the advantage of remaining open later, and being freed from ice earlier, than the other harbours in the gulf. A very considerable quantity of timber is annually sent from this port, and it has two considerable ship-building establishments. In the year 1831 fifty vessels, whose aggregate burden amounted to 4580 tons, were built on the island, principally for sale in England. The population of George Town amounted to 156 souls at the last census.

Building lots have been marked out on a peninsula situated on the south side of Richmond Bay, and the spot has received the name of Prince Town. No buildings have, however, yet been erected here, although many settlements have been made in the district. Richmond Bay is ten miles deep and nearly as broad. There are six islands lying within it and across the entrance; three channels are thus formed, of which only the most eastern will admit vessels larger than boats. An isthmus only one mile broad at the bottom of Richmond Bay divides it from Bedeque or Halifax Bay on the opposite side of the island.

The soil is "a thin layer of black or brown mould, composed of decayed vegetable substances; then, to the depth of a foot or more, a light loam prevails, inclining in some places to a sandy, in others to a clayey character; below which a stiff clay, resting on sandstone, predominates. The prevailing colour of both soil and stone is red. The soil is fertile, and there is scarcely a stone on the surface of the island that will impede the progress of the plough. There is no limestone nor gypsum,

nor has coal yet been discovered. Iron-ore is by many thought to abound, but no specimens have as yet been discovered, although the soil is in different places impregnated with oxide of iron, and a sediment is lodged in the rivulets running from various springs, consisting of metallic oxides.* Brick-earth abounds, and potters' clay is occasionally met with; a few blocks of granite are also scattered over the island.

The prevailing trees are spruce, fir, hemlock, beech, birch, poplar, and maple. The island at its first settlement contained large forests of majestic pines, great numbers of which at different periods have been destroyed by fire; and a considerable quantity of pine timber has been exported to England, so that pine is now becoming scarce: of other trees there are still a considerable number, as oak, elm, larch, and ash; the quality of the oak is inferior. Most of the shrubs, herbs, grasses, and wild fruits, common to the neighbouring continent, are found on the island. Sarsaparilla and ginseng also grow plentifully.

The quadrupeds, native to the island, are "bears, loupceviers, foxes, hares, otters, musquashes, minx, squirrels, weazels," &c.† Premiums are offered by the colonial government for the destruction of the two first-mentioned animals, which were formerly very destructive to the live stock on the farms. They are now seldom found. The only species of wild animals that are common are foxes, hares, and squirrels. Field-mice were at one time so numerous as to destroy a great part of the corn about harvest-time, but during the last twenty years, from some unexplained cause, their numbers are so far diminished that they cause little injury.

Partridges and wood-pigeons breed in great numbers in the woods; the first are considered finer than those in England. Wild geese visit the island in March, and remain about six weeks, when they depart to the northward to breed. They return in September, and quit again in November, going to the southward: wild ducks are plentiful. There is great variety of fish in the harbours and rivers, and on the coast and on the banks near the island. Salmon, trout, mackerel, cod, haddock, herrings, perch, and smelts, are the principal fish: lobsters are plentiful and good, and the oysters are the best in America. Seals visit the bays and the shores during the summer and autumn. The climate of Prince Edward Island is more temperate than that of Lower Canada, and is not liable to such sudden transitions of temperature as the neighbouring colonies of New Brunswick, Nova Scotia, and Cape Breton, neither is the island subject to fogs, which are so common in the neighbourhood. This circumstance is accounted for by the fact of its being out of the track of the gulf-stream, while it is sheltered by the high lands of Newfoundland and Cape Breton, which lie between it and the Atlantic, from the fogs which rise on the banks.

* McGregor.

† Ibid.

The climate is accordingly favourable to health, and many of the inhabitants live to an advanced age.

The population at the last census amounted to 23,473, who were distributed as in the following Table; which also shows the breadth of land in and out of cultivation, with the number of horses, cattle, and sheep in each county:—

COUNTY, &c.	Popu- lation.	Acres in crop.	Acres uncultivated.	Horses.	Cattle.	Sheep.
King's County ...	5,492	12,157	391,513	1,193	3,063	10,539
Queen's County ..	9,386	25,627	428,098	1,597	4,404	14,410
Prince's County ..	5,980	21,544	445,156	928	3,233	11,013
Charlotte Town ..	2,073	..	..	..	..	..
Prince Town	314	..	..	..	..	..
George Town	156	..	..	..	..	..
Small Islands	72	173	..	9	33	92
	23,473	59,501	1,264,767	3,727	10,733	36,056

The produce of the land under cultivation is greater than is required for the consumption of the inhabitants. The surplus is shipped principally to the neighbouring provinces of New Brunswick and Nova Scotia. In 1831 the quantities of agricultural produce thus exported were—wheat, 11,749 bushels; barley, 17,754 ditto; oats, 116,703 ditto; potatoes, 214,056 ditto; flour, 1133 barrels; oatmeal, 175,289 lbs.; cattle, 388; sheep, 823; hogs, 340.

The total value of the exports for the year, including timber to the amount of 7000*l.*, was 42,535*l.* The number of vessels that entered at and cleared from the ports of the island were—

Counties.	Inwards.		Outwards.	
Great Britain .	26 Ships.	5,091 Tons.	24 Ships.	5,257 Tons.
British Colonies	283 „	11,917 „	353 „	16,594 „
United States .	1 „	60 „	..	..
Foreign Ports .	1 „	55 „	5 „	234 „
Total .	311 „	17,123 „	382 „	22,085 „

The difference between the numbers inwards and outwards is occasioned by the departure of the new vessels built in the colony and by the return of others in ballast, when no account of them is taken at the Custom-house.

There were employed in the fisheries in 1831, 22 vessels, which produced for exportation 1201 quintals and 5 casks of dry cod, and 946 barrels of pickled fish.

The inhabitants are principally natives of the United Kingdom and their descendants; of this class one half are Scotch. There are about 5000 persons, the descendants of Frenchmen, who settled here previous

the conquest of Canada. A very few Indians, probably not more than twenty or thirty families, part of the once numerous Mic-mac tribe, linger about the colony. They profess the Christian religion according to the tenets of the Church of Rome, and have a chapel on Lenox Island in Richmond Bay.

There are two schools supported by the government in Charlotte Town; one a grammar-school, and the other a free-school, on the Lancasterian system. Schools for elementary instruction are provided in most of the settlements, and are in part supported by the legislature.

The island is in the diocese of the bishop of Nova Scotia. All religious sects have perfect toleration and freedom from disabilities.

The government is vested in a lieutenant-governor, a council, which is in both an executive and legislative capacity, and a House of Assembly, consisting of eighteen members. The English law is administered by a chief-justice. District courts are established for the recovery of small debts, and the police of the island is under the direction of justices of the peace, whose functions are similar to those of the magistrates in England.

NEWFOUNDLAND AND ANTICOSTI.

The Island of Newfoundland is the most eastern part of America, and the nearest to Europe. The distance between the island of Valentia on the south-west coast of Ireland, and St. John's on the east coast of Newfoundland, is 1656 nautical miles. The island is situated between $46^{\circ} 40'$ and $51^{\circ} 39'$ N. lat., and $52^{\circ} 44'$ and $59^{\circ} 31'$ W. long., on the north-east side of the entrance to the Gulf of St. Lawrence. The form of the island is very irregular, and the shores are broken by numerous bays and harbours. Its north-western extremity is separated from the coast of Labrador by the straits of Belleisle. The south-west point is opposite to Cape Breton; it is open on the east to the Atlantic, and its west coast forms the eastern boundary of the Gulf of St. Lawrence. Its extreme length, measured on a curved line extending from Cape Race in the south-east, to Cape de Grat, at its northern extremity, is 420 miles, and the length from Cape Freels, the northern entrance to the Bay of Bonavista to Cape Ray, opposite to Cape Breton, is about 10 miles. The island has never been surveyed, but is computed to contain 35,500 square miles, though some estimates make it 60,000 square miles. The whole population, according to the census of 1836, was 73,705, of whom 41,467 were males.

The appearance of Newfoundland from the sea is extremely rugged. All the settlements having been made for the purpose of prosecuting the

fishery, they have been uniformly placed on the coast, and few attempts have been made even to acquire any knowledge of the interior. It was not until the year 1823 that an adventurous gentleman succeeded in traversing the island from east to west. From his report we learn that it is intersected by numerous rivers and lakes, that the soil is generally rocky and barren, and produces little useful timber, except on the banks of rivers, where birch, poplar, and spruce firs grow to a considerable size.

Newfoundland was probably first discovered by the Northmen about the year 1000. John and Sebastian Cabot, on their second voyage, discovered Cape Bonavista, on this island, on the 24th of June, 1497. Landing in the adjoining bay, they found several natives dressed in the skins of animals, and formally took possession of the island, which they called Baccalaos, the name given to cod-fish by the natives; a name, it may be remarked, which has been adopted into the language of Portugal (*bacalhao*), from which country some adventurers subsequently proceeded to the island, and formed a settlement, from which they were driven by the English under Sir Francis Drake in the reign of Elizabeth. In 1610 a charter was granted to a company of adventurers of London and Bristol, for colonising Newfoundland, and a colony was established at Conception Bay. Four years later, courts of justice were established by royal authority in the island; and the first Lord Baltimore, in 1623, established a flourishing colony at Ferryland, on the east coast, where he himself resided for some years. From this time numerous settlements were continually made along the east coast by the English, while the French established themselves on the south, at Placentia, in the bay of that name, and maintained possession of it until the treaty of Utrecht, in April, 1713. By this treaty Newfoundland and its dependencies were declared to belong wholly to Great Britain, but the French were allowed to fish and cure what they should catch on some parts of the shore, but were not allowed to erect fortifications or any other buildings, except such as were strictly required for the purposes of the fishery.

The settlements on the coast now amount to 60 or 70, the greater part of which are on the eastern and southern shores, and particularly the former. The only town on the island is St. John's, situated in $47^{\circ} 35'$ N. lat., $52^{\circ} 48'$ W. long., on the east side of the island. Besides being the seat of government, it is likewise the principal harbour for trading vessels. The entrance to the harbour is by a long, narrow strait, which is not difficult of access, although only one ship can enter at the same time.

This strait contains a shelf, called the Chain Rock, a name given to it from the circumstance of a chain having been extended from it, to prevent the entrance of a hostile force. The entrance to the harbour is further guarded by various batteries, and there is a light-house on the left side of the entrance. The town of St. John is composed

One long street, running nearly parallel to the shore, and of several other streets or lanes which branch from the street at right angles. Most of the houses are of wood, some are of brick, and others of stone. The shore is entirely lined by wharfs, which are mostly occupied by stages for curing fish. The government have a fine wide wharf, which is open to the public. The population of the town fluctuates extremely in the season. At the height of the fishing the place is crowded, but many of its then inhabitants return to Europe in the trading vessels. At the census of 1828 the population was 15,165, but it is probable that not more than two-thirds of this number were permanent residents. A large proportion of the inhabitants being poor fishermen, three free schools have been provided by the wealthier inhabitants for the education of their children. One of these, an orphan school, contained, in 1831, as many as 557 scholars. Many other free schools are established at the different settlements, and altogether, in the year just mentioned, 1269 children were receiving gratuitous instruction.

St. John's is built on a peninsula, which Lord Baltimore named the province of Avalon. It is indented on both sides by very deep bays. Twenty miles north from the town is Conception Bay, which is 45 miles deep and about 20 broad, having its entrance between Cape St. Francis on the south-east, and Point de Grates on the north. Off this point is the small island called Baccalao, which is the resort of great numbers of sea-fowl. The shores of this inlet are bold and lofty. It contains numerous harbours, and many settlements, and is the most populous district of the island: at the last census it contained 17,859 inhabitants.

The principal fishing-stations in this bay are on the west side, at Carbonier and Harbour Grace, the latter of which is a safe harbour, which is of the more importance, as the coast is greatly exposed to storms from the east. Portugal Cove, the only settlement on the east side of Conception Bay, is exposed to winds from the opposite quarter, and is very unsafe. One of the very few roads in the island has been opened between this place and St. John's, the distance being 10 miles across the peninsula. The communication between the town and more distant settlements is kept up by packets and passage vessels. Opposite to Portugal Cove, and about three miles from it, is Belle Isle, which is about six miles long, with a soil consisting of rich black mould, without rocks or stones. Neither here nor in any other part of the island, except immediately about St. John's, are there any houses more than a mile from the sea. Agriculture is carried on to a very small extent. According to the agricultural return of 1836, there were only 11,062 acres in cultivation. Every family has a small quantity of land, but the cultivation is confined to objects of domestic use. The great bulk of provisions consumed on the island are imported, partly

from Great Britain and the neighbouring countries of North America, and partly from the continent of Europe.

The entrance to Trinity Bay is between Point de Grates on the south, and Cape Bonavista on the north. It is 70 miles deep and 20 miles broad, and contains many settlements, the population of which amounts to 5153 souls. The principal settlement is Trinity Harbour, on the north side of the bay near its entrance: Random Island, on the west side of the bay, is about 20 miles long. North-west of Cape Bonavista is the bay of that name, which is 40 miles deep and as broad, and contains numerous fishing stations. This district has 4671 inhabitants. This bay contains numerous small islands, and abounds in rocks.

From Cape Freels, at the northern entrance to Bonavista Bay, the coast trends to the westward, and at 50 miles' distance is Gander Bay. Opposite to this inlet is Fogo Island, to the west of which are New World Island and Twillingate Island. The last is the most northern of the English settlements: the inhabitants of this and Fogo Island amount to 3547. South and west of these islands is the Bay of Exploits, into which a river of the same name, the largest in Newfoundland, discharges itself. Notre Dame and Blanche or White Bays are still farther to the west. There are few settlers in this part of the island, and indeed the whole western coast, as far south as the bay of St. George, in the Gulf of St. Lawrence, may be said to be unsettled. The coast along the straits of Belleisle is a straight line. On entering the Gulf of St. Lawrence from the straits we come to St. John's Bay, which contains three islands, and receives the waters of Castor's River, a stream of considerable size. Point Rich, the southern extremity of St. John's Bay, divides it from Ingornachoix Bay. The next most considerable inlet to the south is Bonne Bay, below which is the Bay of Islands, which contains several islands, and receives the waters of three rivers, one of which, the Humber, is the largest stream that has been found in the island. It is said to issue from a lake 60 miles long. South of the Bay of Islands is Port-a-Port, which is formed by an isthmus, and divided by a slip of land nearly equally into East and West Bays. The south-western extremity of the isthmus is Cape George, between which on the north and Cape Anguille on the south, is St. George's Bay. From Cape Anguille to Cape Ray the coast inclines to the south. Between these two points, two rivers, Great and Little Cod Bay River enter the sea. Cape Ray forms the entrance of the Gulf of St. Lawrence on the north-east, having Cape North, on the island of Cap Breton, on the south-west, distant about 20 leagues. From Cape Ray the coast runs nearly due east, with numerous bays and coves, some of which are of considerable extent and depth. There are several small islands off the south shore of the island. Fortune Bay is formed by neck of land which projects from the main land about 70 miles in

south-westerly direction. It contains numerous harbours, and several fishing establishments have been formed here, and one for whale-fishing, which is carried on by means of boats. The whale which is taken here yields from three to eight tuns of oil. The population of Fortune Bay was 2808 at the last census. The islands of St. Peter and Miquelon, situated off the mouth of Fortune Bay, have been ceded to France, as places of shelter for her fishermen, but with a stipulation that they shall not be fortified nor garrisoned.

East of Fortune Bay, and divided from it by the neck of land already mentioned, is the Bay of Placentia, an inlet 60 miles deep and 45 miles broad at its entrance, narrowing to 20 miles at its head, where it is divided from the waters of Trinity Bay by a low isthmus, little more than three miles over, which connects the peninsula of Avalon with the main land. It is not uncommon for fishermen who wish to pass from one of these bays to the other to convey their boats across this isthmus. Placentia Bay contains many islands, and has several excellent harbours. At Placentia, on the east side of the bay, a large fleet of ships could be sheltered. The population of this district is 2802. On the opposite shore of the bay is Burin, with a population of 2120 persons. Divided from the Bay of Placentia by Cape St. Mary, is Cape St. Mary's Bay, 30 miles deep and between 15 and 20 miles broad. This bay also contains harbours where several fishing establishments are found: it receives the waters of Salmon River, in which salmon is taken in abundance.

Trepassy Bay, farther to the east, contains a large and secure harbour with excellent anchorage. The population about St. Mary's and Trepassy Bay amounts to 847 souls.

Twenty miles from Trepassy is Cape Race, the south-east point of Newfoundland. The settlements north of Cape Race, and between it and St. John's, are Renowe's or Reneau's Harbour; Fermeuse or Ferosa; Aquaforte; Ferryland, the oldest settled spot in Newfoundland, and founded originally by Lord Baltimore; Cape Broyle Harbour; and the Bay of Bulls, originally Baboul-bay. The last-mentioned settlement is 7 leagues from the entrance to St. John's Harbour. The population of these places amounts to 3,116 persons.

The Banks of Newfoundland, the most extensive submarine elevation on the globe, in their full extent occupy 16° of longitude, and nearly 10° of latitude; they are between 600 and 700 miles in length; the depth of water on them varies from 4 to 160 fathoms. The temperature of the water on the Great Bank is 10° or 12° lower than in the surrounding ocean.

The outer bank, also called the False Bank, extends from $44^{\circ} 10'$ to $47^{\circ} 30'$ N. lat., and from $44^{\circ} 15'$ to $45^{\circ} 25'$ W. long. The Great Bank, which lies $2\frac{1}{2}^{\circ}$ west of the False Bank, occupies more than 9° of latitude

and 5° of longitude. Whale Bank, Green Bank, and St. Peter's to the south of the island, are of much smaller dimensions.

Cod-fish is found on the Great Bank in the greatest abundance; there are so many disadvantages attending this fishing-ground compared with the harbours and shores of the island, that Bank-fishing of late years has been much neglected by the English, although it is prosecuted by the American and French fishermen. The Bank is covered by continual fogs; rain and sleet are also frequent, and the early part of the season much inconvenience is experienced from. Besides avoiding these inconveniences, the fishermen who remain to the shore have better opportunities for curing and drying the fish, the quality of which is therefore preferred. The number of vessels employed at present in the Bank fishery, and which are called *bankers*, does not exceed eight or ten: some years ago they amounted to 600 or 700.

The following description is by Lieut. Chappell, R. N. :—

“ There are a number of boats fitted with masts and sails belonging to each fishery, two or four men being stationed to a boat. At the earliest dawn of day the whole of these vessels proceed to that part of the coast where the cod are most plentiful, for they move in shoals, and frequently alter their position according to the changes of the wind. When the resort of the fish has been ascertained the boats let fall their lines, and the men cast over their lines. Each man has two lines to work, and every line has two hooks affixed to it, which are baited with caplin or herrings. The men stand upon a flat flooring, and are separated from each other by a sort of bins, like shop-counters, placed round the centre of the boat. Having drawn up the line they lay it upon the bin, and strike it upon the back part of the head with a piece of wood in the shape of a rolling-pin: this blow stuns the fish, and causes it to yawn its jaws widely asunder, by which means the hook is easily extracted. Then the fish is dropped into the bin and the line is thrown over, whilst the fisherman, instantly turning round, pulls up the opposite line, so that one line is running out and the other pulling in at the same instant. Thus the boatmen continue until the vessel is filled, when they proceed to discharge their cargo at the stage. The cod are pitched from the boat upon the stage with care, care being taken to stick this pike into their heads, as a wound in the body might prevent the salt from having its due effect, and thus ruin the fish. When the boats are emptied, the fishermen procure a new quantity of bait and return again to their employment on the bank, whence in the course of an hour or two, perhaps, they again start with another cargo.”

The curing is managed as follows :—

“ Each salting-house is provided with one or more tables

which are placed wooden chairs and leathern aprons for the cut-throats, headers, and splitters. The fish having been thrown from the boats, a boy is generally employed to bring them on the stage and place them on the table before the cut-throat, who rips open the bowels, and having also nearly severed the head from the body, he passes it along the table to his right-hand neighbour, the header, whose business it is to pull off the head and tear out the entrails: from these he selects the liver, and in some instances the sound. The head and entrails being precipitated through a trunk into the sea, the liver is thrown into a cask, where it distils in oil; and the sounds, if intended for preservation, are salted. After having undergone this operation, the cod is next passed across the table to the splitter, who cuts out the back-bone as low as the navel in the twinkling of an eye. From hence the cod are carried in handbarrows to the salter, by whom they are spread in layers upon the top of each other, with a proper quantity of salt between each layer. In this state the fish continue for a few days, when they are again taken in barrows to a shut wooden box full of holes, which is suspended from the stage in the sea. The washer stands up to his knees in this box and scrubs the salt off the cod with a soft mop. The fish are then taken to a convenient spot and piled up to drain, and the heap thus formed is called 'a water-horse.' On the following day the cod are removed to the fish-flakes, where they are spread in the sun to dry; and from thenceforward they are kept constantly turned during the day, and piled up in small heaps, called 'flackets,' at night. The upper fish are always laid with their bellies downward, so that the skins of their backs answer the purpose of thatch to keep the lower fish dry. By degrees the size of these flackets is increased, until at length, instead of small parcels, they assume the form of large circular stacks, and in this state the cod are left for a few days, as the fishermen say, 'to sweat.' The process of curing is now complete, and the fish are afterwards stored up in warehouses, lying ready for exportation.

"With such amazing celerity is the operation of heading, splitting, and salting performed, that it is not an unusual thing to see ten cod-fish decapitated, their entrails thrown into the sea, and their back-bones torn out, in the short space of one minute and a half. The splitter receives the highest wages, and holds a rank next to the master of a fishery; but the salter is also a person of great consideration, upon whose skill the chief preservation of the cod depends.

"There are three qualities of cured cod-fish in Newfoundland. They are distinguished by the different titles of *merchantable fish*, those of the largest size, best colour, and altogether finest quality. *Madeira fish*, which are nearly as valuable as the former: this sort is chiefly exported to supply the Spanish and Portuguese markets. *West India fish*, the refuse of the whole. These last are invariably sent for sale to feed the negroes of the Caribbee Islands."

and 5° of longitude. Whale Bank, Green B. to the south of the island, are of much smaller extent.

Cod-fish is found on the Great Bank in the north of the island. There are so many disadvantages attending the fishing here compared with the harbours and shores of the south, that it has of late years been much neglected by the English. It is prosecuted by the American and French vessels, who are favoured by continual fogs; rain and snow in the early part of the season much increase the inconvenience. Besides avoiding these inconveniences, the vessels to the shore have better opportunities of procuring the quality of which is therefore superior. The vessels employed at present in the fishery, however, does not exceed eight or ten, and the number to 600 or 700.

The following description

"There are a number of fisheries on the coast, to each fishery, two or three vessels are attached. At the earliest dawn of day the vessels start from the coast where the cod is found. They frequently alter their position, and the resort of the fish is to the vessels, where they are packed away. The men cast their nets, and are able to make a second trip before the melting of the ice, and every line has a caplin or herring attached to it.

The fish is then separated from each other, and the fat or blubber from the skin. This fat is from each other, and the pieces are thrown into vats, which are exposed to the heat of the sun. In three or four weeks the oil will have separated itself. A upon the bin, the inferior oil is then procured by boiling the blubber. The wood in the vat which separates without the aid of fire is of a pale colour, and is it to yawn. The boiled oil being partially burnt is of a dark colour, and extracted from the fish. The boiled oil being partially burnt is of a dark colour, and thrown into the vat. The boiled oil being partially burnt is of a dark colour, and thrown into the vat.

pull up the fish. When the fat has been removed, the skins are carefully stretched and pulled up. They are then packed in piles with layers of salt between. They are shipped in bundles of five or six each for the convenience of stowage.

The produce of the Newfoundland fishery in 1831 amounted to—

766,850 quintals of cod fish,
4,322 barrels of salmon,
1,584 barrels of herrings,
56 barrels of mackerel,
3,136 barrels of caplin, sounds, and tongues, and
558,942 seal skins,

The estimated value of which, in the island, was 574,580*l.*: the value of the produce of the fishery in 1836 was estimated at 808,066*l.* There were employed in procuring this quantity 3,868 boats, and 744 vessels.

of a larger size. In the same year (1831) 786 vessels, whose aggregate tonnage was 92,498, cleared outward from the island.

Of these, 131 vessels of 21,764 tons proceeded to the United Kingdom,

432	„	43,159	„	to British colonies,
223	„	27,575	„	to various foreign coun-

tries. In 1836 there cleared out 785 vessels, with an aggregate tonnage of 95,557.

The climate of Newfoundland is less severe than that of the neighbouring continent. The winter generally sets in about the middle of November, and terminates about the end of April. The coldest time is between Christmas and the middle of March. The greatest summer heat is in July and August. The rains and fogs so prevalent upon the banks, and on the east and south coasts, are attributed to the Gulf-stream, which touches the extremity of the Great Bank. The water of the Gulf-stream being several degrees warmer than the air, and much warmer than that on the banks, gives off vapour, which condenses into fog, sleet, or rain.

Towards the northern and western parts of the island, the sky is generally clear and serene. Upon the whole, the climate of Newfoundland is favourable to health. The cold in winter, although severe, is bracing, and a large proportion of the inhabitants, even among the class most exposed to the weather, reach a good old age. It is said that both men and women, eighty years of age, sometimes attend to the active operations of the fishery.

It is said that there is coal in abundance at Port-a-Port Bay, but it has not hitherto been worked. A copper-mine, situated near Shoal Bay, 15 miles south of St. John's, was discovered and worked for a short time about 1776, but has since been neglected. There are some quarries of very indifferent limestone on the island; and a dark-grey kind of marble is found at the Bay of Islands. Mr. Cormack, who in 1823 accomplished the journey across the island from Trinity Bay to St. George's Bay, found granite prevailing every where; the exceptions that presented themselves were porphyry, quartz, gneiss, sienite, basalt, mica-slate, clay-slate, and secondary sandstone. He met many indications of iron and coal. The mountains which he saw were not in ridges, but each seemed to have its own particular base. Mr. Cormack likewise discovered large tracts of peat-marsh, and found under the surface the trunks and roots of trees much larger than any which are now growing on the island.

Vast herds of deer resort to the woods in winter, and come into the plains during summer. Foxes are numerous along the rivers and sea coast. Beavers were formerly plentiful: parties of furriers are accustomed to go in quest of these animals in the winter, following the course of the rivers. Bears, otters, hares, and martens, also furnish skins for the hunters. Traps called *death-falls*, made of logs, are very commonly

employed by Newfoundland hunters, and are preferred to the use of arms, as the fur is injured by the shot. The noble animals known in Europe as Newfoundland dogs, are not in general the pure breed of the island. In a state of nature the dogs of Newfoundland have many of the habits of the wolf. They hunt the animals of the country in packs for the sake of prey, and even when domesticated their fondness for the blood of sheep, as well as of some descriptions of poultry, makes it necessary to keep a constant guard over them. In Newfoundland these dogs grow to a large size, and being both extremely docile and very strong, are commonly employed in dragging timber from the woods, either over the bare snow or ice, or when placed in sledges. This dog never barks unless greatly irritated.

The aboriginal inhabitants of Newfoundland are remarkably shy of intercourse with Europeans, confining themselves wholly to the interior of the island, with which settlers have little or no communication. The number of Indians is thought to be very inconsiderable, when compared with the great extent of the country.

A large proportion of the settlers are natives of Ireland, and of the Islands of Guernsey and Jersey, and their descendants; but many of the inhabitants are also from other parts of the United Kingdom. The population has retained the habits of their old country to a greater degree than in other North American settlements; a fact which may perhaps be attributed to their dependence upon England for the supply of so large a portion of their wants, and to the number of visitors who go there every season for the prosecution of the fishery.

Many of the vessels employed in the fishing and coasting trade of the island are built there. In 1831 there were launched 24 vessels, whose aggregate burthen amounted to 1,698 tons. Materials for ship-building are brought into the colony from New Brunswick. The manufactures of the island are limited to stockings, caps, and mittens, which are made stout and warm.

The most perfect toleration is extended towards all religious sects. The island contains 11 churches, according to the doctrines of the Church of England, 10 Roman Catholic chapels, and 18 places of worship for Protestant Dissenters, comprising Presbyterians, Independents, and Methodists. The Church of England clergy are all missionaries appointed by the Society for Propagating the Gospel in Foreign Parts, and are paid from its funds, with the exception of the archdeacon, who receives a salary of 300*l.* per annum from the government. There is a Roman Catholic bishop resident on the island.

Justice is administered by a chief-justice and an assistant judge; and the police is under the management of one chief and two junior magistrates. Until the year 1832 the colony was entirely governed by the orders of the king in council. There is now a local legislature, whose powers are similar to those of the legislative bodies in other British colonies.

ANTICOSTI.

The Island of Anticosti, situated at the mouth of the river St. Lawrence, is included within the government of Newfoundland. The present name is derived, by a simple transposition of letters, from that which it bore among the Indians, who called it Natiscoti. It lies within $49^{\circ} 5'$ and $49^{\circ} 55'$ N. lat. and between $61^{\circ} 54'$ and $64^{\circ} 30'$ W. long. The north shore is high, and the water even close to the cliff is deep; and although there is no harbour there are coves which afford tolerable shelter to ships when the wind blows off the land. The south shore of the island is low and the water is shoal. Flat rocky reefs extend to some distance from the coast, upon which many vessels have been wrecked. The land on the south side is low and swampy; the few rocks that appear are calcareous. The island is covered with woods, the chief part of the trees being white cedar, birch, fir, poplar and dwarf spruce, all of which are of stunted growth. It contains bears, foxes, hares, and sables, and is much visited by partridges, plovers, curlews, and snipes. Owing to the unpromising appearance of the soil and the want of a harbour, no settlements have been made. Two families have indeed been established here, at opposite ends of the island, by the government of Newfoundland, with a view to relieve persons who may suffer shipwreck; and with the same view, direction posts have been set up at intervals all along the coast, to guide shipwrecked persons to the dwellings of the residents. The interior of Anticosti has not been explored; the Indians who have penetrated beyond the coast in search of game, report that the land is in general swampy.

NOVA SCOTIA AND BRETON ISLAND.

The Peninsula of Nova Scotia and the Island of Breton are included under the same government, and are only separated by the Gut or Channel of Canso, which is little more than a mile wide. The government lies between $43^{\circ} 20'$ and $47^{\circ} 5'$ N. lat., and between $59^{\circ} 50'$ and $66^{\circ} 30'$ W. long. It is bounded on the south and east by the Atlantic Ocean, on the north by the Gulf of St. Lawrence, and on the west by the Bay of Fundy, the Province of New Brunswick, and Northumberland Strait. The Isthmus of Chignecto, by which the peninsula of Nova Scotia is connected with the North American Continent, is only eight miles wide, and is situated between Bay Verte in Northumberland Strait and Cumberland Basin at the north-eastern extremity of the Bay of Fundy. A canal is projected or already made across this isthmus. The extreme length of the province from North Point on Breton Island

to Cape St. Mary's at the western extremity of Nova Scotia is about 350 miles, and the greatest breadth, from north to south, from Bristol Bay near Halifax to the head of Bay Verte is 100 miles. The whole area is about 19,000 square miles, or about one-third of the area of England and Wales. When Nova Scotia and the adjacent parts were in the possession of the French, the whole was comprehended under the general name of Acadia, a name derived from that of the Shubenacadie, one of the chief rivers of Nova Scotia.

The coast of this province contains numerous deep inlets and many fine harbours; the principal of which are here enumerated, beginning with the east coast of Breton.

St. Ann's Bay Harbour, on the east coast of *Breton*, is ten miles deep, and is connected by a narrow pass with another safe, capacious harbour further inland, which has sufficient depth of water for large ships. A few miles to the south is the *Bras d'Or*, occupying a large portion of the area of Breton Island, which it penetrates for 60 miles, and nearly divides into two islands. The entrance to the *Bras d'Or* is divided into two narrow passages, called the Great and Little Entrance, by the long narrow island of Boulardrie. The Little Entrance is impracticable for ships, and is seldom used even for boats. The shores of the *Bras d'Or* contain numerous bays and small harbours, in which timber is shipped for Great Britain. The open part of the *Bras d'Or* forms four large arms, of which the southern and the largest contains many small islands, and terminates at the Isthmus of St. Peter, which is about 900 yards wide, and separates the waters of *Bras d'Or* from those of the Atlantic at the Bay of St. Peter.

A few miles southward from the entrance to *Bras d'Or* is Sydney Harbour, which is two miles wide at the entrance. In the interior it divides into two arms, on the southern of which, and about seven miles from the sea, the town of Sydney is built. The harbour is capacious and secure. South of Sydney Harbour are Windham, and Cow Bays; and adjoining to the last is Miré Bay, at the head of which is Miré River, flowing from the westward.

Cape Breton, from which the island received its name, is the extreme eastern point of the island. Off this cape, between it and Miré Bay, lies Scatari Island, a barren spot, about five miles long, upon which no settlement has been made. Louisburg, the ancient capital of the island, eight miles south-west of Cape Breton, is a safe and capacious harbour. This place was strongly fortified when the island was possessed by the French: it was captured in 1758; and in 1763, when Nova Scotia was finally ceded to the British, the works were destroyed by order of the English government, and the place has since remained in ruins. Following the line of coast westward from Louisburg, we arrive at Gabarus Bay, Portland Cove, Forked Harbour, and St. Esprit Harbour. This part of the coast is rocky. At St. Esprit the country assumes a

better appearance, and many settlements have been formed. Pursuing still a south-westerly course, we reach Cape Hinchinbrook and enter Lennox Channel, leading to the Gut of Canso, between Isle Madame and the shore of Breton Island. In this channel, to the east, is St. Peter's Bay, already mentioned. Isle Madame, off St. Peter's Bay, is sixteen miles long and from six to eight miles broad. It contains the town and harbour of Arichat on the south-west, which is the seat of several fishing establishments, and is a place of growing commercial importance.

The Gut of Canso, which divides Breton Island from *Nova Scotia*, is rather more than 20 miles long. It forms a perfectly secure passage from the Atlantic into the Gulf of St. Lawrence, which is much used by trading vessels. At the south-west entrance of the Gut of Canso, on the main land of Nova Scotia, is Chedabucto Bay, which is 25 miles long and 12 broad. At the western extremity of this bay is an inlet a mile wide and twelve miles long, running north-west, and called Milford Haven. The shores of Chedabucto Bay are much frequented by fishermen on account of the great numbers of herrings and mackerel.

From Cape Canso, near the eastern extremity of the peninsula, to Halifax, a direct distance of 130 miles, the coast, although exceedingly rugged, contains numerous excellent harbours; but the land about them being of inferior fertility, they are only thinly settled by fishermen. With the exception of Coventry Harbour and St. Mary's River, these inlets do not require a particular description. The former is an excellent port, navigable for large ships 10 miles above its entrance. St. Mary's River has a bar-entrance with 11 feet of water when the tide is out, but admits vessels of considerable burthen for nine miles beyond its mouth. This river, which is one of the largest in Nova Scotia, falls into the Atlantic 50 miles west of Cape Canso. At the head of its navigation stands the village of Sherbrook, above which the river divides into several branches; and, as it flows through a country abounding in timber, is convenient for floating it down to the port of shipment. A very considerable timber-trade is carried on at Sherbrook.

The harbour of Halifax is situated in 44° 39' N. lat., and 63° 38' W. long. It is easily accessible at all seasons, and can contain 1,000 vessels. It is 16 miles long, including Bedford Basin at its extremity, which covers 10 square miles of good anchorage-ground. A lighthouse is erected on Sambro' Head, at the west side of the entrance to the harbour. West of Halifax Harbour, the inlets are as numerous as to the east:—St. Margaret's Bay, which is 14 miles long, contains numerous coves. Mahon Bay, which is 10 miles wide and 12 long, is said to contain more than 200 small islands, many of which are used for rearing sheep. There are several good harbours within this bay, into which three or four rivers empty themselves, and offer sites for several saw-mills and grist-mills. Near the entrance of Mahon Bay is the town and bay of Lunenburg, formerly called Merliguesh. The harbour is small,

but easy of access. A few miles farther west is La Have, one of the largest rivers of Nova Scotia, with a spacious harbour at its mouth, sheltered by several islands. The river affords sites for several saw-mills, and the port is the principal one for timber on the coast. Port Medway, the next to the westward, is a fine capacious harbour, which receives the waters of the River Medway, upon which also are several saw-mills. A considerable fishery as well as timber-trade is carried on from the port. Liverpool Harbour, formerly called Port Rossignol, is 70 miles west from Halifax. A light-house has been erected on Officer's Island, at the entrance to the harbour, into which the river Mersey falls. Shelburne is a secure and excellent harbour 12 miles long, and will accommodate vessels of large burthen. On Roseway Island, at the mouth, a light-house is placed. The town of Shelburne was once a considerable place, but it has fallen into decay. The Clyde river, which rises 40 miles inland, joins the ocean a few miles west of Shelburne Harbour, at Cape Negro Harbour.

Cape Sable Island is the most southern point of the province. Between it and the coast is Barrington Harbour, a shallow haven much frequented by fishing vessels; several small rivers run into this harbour.

Seal Island 21 miles west of Cape Sable Island and 13 miles from the shore, is much resorted to by American fishermen for wood and water.

On the south-west coast of the peninsula is Argyle Bay, also called Townsend Bay, containing Pubnico harbour, which is deep and safe. The Tusket Islands, more than 200 in number, are situated outside of Argyle Bay, and form numerous sheltered anchorages. To the north of these is Yarmouth harbour, with Cape Fourchon at the entrance.

Briars Island and Long Island are off the south-west coast of the province, and together with a long peninsula, called Digby Neck, form St. Mary's Bay, which they separate from the Bay of Fundy. St. Mary's Bay is 35 miles deep, and its breadth varies from 4 to 10 miles.

On the east shore of the Bay of Fundy is Annapolis Basin, which receives the waters of several rivers, the chief of which is Annapolis River, which runs parallel to the Bay of Fundy for 70 miles, being separated from it only by a hilly tract of land, not more than eight miles wide. The Bay of Fundy is described at p. 97.

At the north-eastern extremity of the Bay of Fundy is Minas Bay or Basin, which receives the waters of 19 rivers, some of them of considerable size. The entrance to the basin is through a strait three miles wide, which widens within to 16 miles and extends 50 miles east to the head of Cobequid Bay. The water in the spring-tides sometimes rises from 50 to 60 feet within this basin. The Shubenacadie river enters Cobequid Bay, the eastern part of Minas Bay. This river rises near Halifax Bay, and passes through several lakes. The Shubenacadie Canal connects the town of Halifax with the Bay of Minas, traversing, through a course of 54 miles, the best cultivated district of the province.

Chignecto Bay, the northern branch of the Bay of Fundy, leads to Cumberland Basin, which washes the shores of the isthmus that connects the province with New Brunswick.

The north shore of Nova Scotia, from Bay Verte to the Island of Breton, contains numerous fine harbours.

Pictou harbour has a bar at its mouth with 22 feet of water when the tide is out; the basin within is capacious. Pictou, the principal town of the district, is built on the harbour, about three miles from the entrance. It has been declared a free warehousing port and is a thriving place. On the west shore of St. George's Bay, which forms the entrance to the Gut of Canso from the gulf, is Dorchester, or Antigonish Harbour. The east coast of this bay and its continuation, the west shore of Breton Island, contain few harbours. Port Hood, in Breton, at the north-eastern point of St. George's Bay, is formed by an island and a point of land by which it is completely sheltered. The harbour, which will admit vessels of considerable burthen, is capacious. The west coast of Breton is generally rocky and contains few harbours.

The Island of St. Paul is about 10 miles north-east of North Point: it is a barren rock upon which many vessels have been wrecked.

BRETON has a kind of triangular form: its greatest length is about 100 miles, and the greatest width about 85. The area, including the Bras d'Or, is about 3500 square miles. The island is generally mountainous, and the high land appears in many places close to the coast, and on the shores of the Bras d'Or. Cape Enfumé, 20 miles north of St. Ann's Harbour, is said to be 1,800 feet above the level of the sea.

In that part of the island which is south-east of the Bras d'Or granite prevails. In all parts of the island are found mica-slate, clay-slate, and sienite; transition limestone, greywacke, gypsum and coal, are very generally distributed. The coal fields are of great extent in the south-eastern portion of the island, and the quality of their produce is good. North of the Bras d'Or, neither the extent of the coal fields nor the quality of the coal has been ascertained. Great abundance of gypsum is found in many parts of the island, and particularly on the shores of the Bras d'Or, on the Gut of Canso, and on the north-western coast. Copper and lead-ore have been found, and iron-ore and iron pyrites exist in abundance.

The Peninsula of NOVA SCOTIA forms a long parallelogram, the general direction of the length being about east-north-east. It is connected with the main land by an isthmus, one extremity of which is determined by a line drawn from the head of Cobequid Bay to Pictou Harbour on Northumberland Strait, and the other extremity, which is the narrowest part, by a line drawn from the head of Cumberland Basin to Bay Verte. The length of the parallelogram is about 260 miles, with an average width of 50 miles, which will give an area of about 13,000 square miles: the area of the isthmus is about 2500 square miles. The

rivers of the western part of the parallelogram enter the Atlantic at the Bay of Fundy; but the general slope of the surface seems to be to the south and the south-east, or to the Atlantic. Minas Bay receives on the south shore the drainage of a considerable basin, the slope of which is towards the north: this basin, the southern margin of which approaches in some places within a few miles of the Atlantic coast, forms a marked division between the western and eastern parts of Nova Scotia, and contains the depression which will presently be mentioned. The largest rivers in the eastern part of the parallelogram enter the Atlantic; a fact which shows that the longer slope of this part of the peninsula is towards the Atlantic Ocean. The land on the north side of Cobequid Bay is elevated, and no large streams enter this part of the Bay. The streams which enter Northumberland Strait are numerous, but they have a short course.

The surface of Nova Scotia may be considered as divided into two parts by the depression between Halifax and Cobequid Bays. The mean level of the Shubenacadie canal, which traverses this depression, is about 100 feet above the sea. The most hilly portion of that part of Nova Scotia which lies west of the depression is in the south-west part of the peninsula, west of Lake Rossignol. A hilly tract also bounds the basin of the Annapolis River on the east and west. The interior of this part of Nova Scotia is a table-land, a few hundred feet above the sea. Ardoise hill 8 or 10 miles from the Basin of Minas, is said to be the highest land in Nova Scotia, but it is only 700 feet high. A great part of the table-land is covered with forests, and contains many lakes, of which Lake Rossignol is said to be 30 miles long. Between Annapolis and Liverpool the lakes form a water communication across the country. The valley of the Annapolis river is fertile, and the country round the Bay of Minas is the most productive part of Nova Scotia. A large part of this portion of Nova Scotia is barren and stony.

The eastern part of Nova Scotia is also a kind of table-land, a few hundred feet above the sea, which is covered with forests and contains some lakes. A hilly tract between the Bay of Minas and Northumberland tract is called the Cobequid Mountains. Part of the country along Northumberland Strait is tolerably fertile. The rivers are numerous, but none of them have a long course. Owing to the physical character of the interior, most of the rivers contain rapids a few miles from the shore; the mouths generally form good harbours.

In the northern part of Nova Scotia from St. George's Bay to Bay Verte and thence across the province to Minas Bay, grey and red sandstone, granite and calcareous rocks abound. Iron, gypsum, copper, lead, manganese, limestone, slate, and salt have been observed in the province, and specimens of agate, amethyst, chalcedony and jasper, are occasionally found along the shores of the Bay of Fundy. The mineral wealth of the

province is imperfectly known ; a circumstance which may be attributed to the fact, that in all the grants of land that have been made, the property in the minerals has been reserved to the Crown. A lease of these reserved rights was some time back granted to the late Duke of York ; and it is under an assignment of this lease that the extensive coal-field at Pictou, on Northumberland Strait, is now worked by an English Company, which pays an annual rent of 3,000*l.* to the provincial Treasury. The produce of the Albion Colliery in the district of Pictou is well adapted for manufacturing purposes and for steam-engine furnaces, and has a considerable sale in the United States. It is said that iron-ore of very pure quality, producing from 30 to 60 per cent. of pure metal is found interstratified with coal in these mines. The great coal-field to which these mines belong is 100 square miles in extent, and the seams vary in thickness from one to thirty-six feet, which is the thickness of the seam now worked at Pictou. In the north-west part of the province bordering on Chignecto Bay in the county of Cumberland, there is also a coal-field of considerable extent, but the quality of the coal is not equal to that of the Albion Colliery. The Cumberland field contains eight seams of coal varying from one to four feet in thickness : it has not yet been worked. Indications of coal have been observed in the district about Minas Bay. There is abundance of iron-ore in Annapolis County, and works have been established by an Incorporated Company, for smelting, casting, and forging iron on Moose River, which falls into Annapolis Basin. The gypsum which is found abundantly in the eastern and central districts of the province is of good quality : very large shipments are annually made from the Province to the United States, where it is used as manure. Some salt springs which have been worked, produce from 8 to 12 per cent. of the mineral ; but the manufacture has never been extensively carried on owing to the high price of labour in the province. Extensive quarries of grindstones are worked in Cumberland County, whence shipments to a considerable amount are made to the United States.

The winter season in this province is usually severe, the thermometer frequently sinking to 20° below Zero of Fahrenheit ; but considerable difference in this respect is observable between the Island of Breton and the peninsula. In the former, the frost generally sets in at the beginning of November, and lasts for six months : in the peninsula the frost does not commence until near Christmas, and continues to the end of April without any intermission ; whereas in Breton, partial thaws, which last from ten days to a fortnight, frequently intervene. The climate is generally considered to be favourable to health. The spring is short. As soon as the ice and snow disappear, vegetation proceeds with such rapidity that in a few days the fields contain abundance of grass for cattle. The summers are hot : the mean heat of the season is about 80° in the shade, and sometimes it rises to 96 degrees. Rain is usually experienced

in April and in the autumn, and fogs are frequent on the line of exposed to the Atlantic.

About one-fourth part of the province is of superior quality, and as much may be called steril: in the remaining portion the land is of medium value. The shores of the Bay of Fundy, and the lands of Minas Bay and the western part of Cumberland County, are among the best of the province, while on the southern shore the land is mostly inferior. There are however considerable exceptions to this rule, and the soil on the banks of rivers and margins of lakes, which are numerous in the province, is mostly good. Settlers chiefly judge of the quality of uncleared land by the timber which it bears. Where elm, hemlock, maple, or black and yellow birch are found, the soil always proves rich; where, on the contrary, white birch and spruce are found, the land is usually poor, and pine generally grows in such places. Soil formed of the alluvial deposits of rivers is found in almost every part of the province. The name by which this soil is known, *intervale*—is peculiar to America; it is exceedingly fertile, so that fourteen successive crops of wheat have been raised upon the same without manure.

Notwithstanding the extensive lumber trade which has so long been carried on between Nova Scotia, the West India Islands, and Britain, the quantity of timber is still exceedingly great in the province.

Squirrels and hares are still plentiful. Many other wild animals were formerly numerous. Among these animals were the moose, hare, loup-cervier, tiger-cat, fox, marten, otter, mink, musquash, and beaver.

The birds which frequent the province are such as are common to North America. Many of them are only birds of passage, and among them partridges, woodpeckers and crows, are found in all seasons.

Fish is exceedingly abundant. The harbours and coasts swarm with the most valuable species, and the fresh water lakes and rivers are equally well stocked. Perch, trout, bream, and eels are found in the lake and rivers. The sea-fish which are most abundant are salmon, herring, mackerel, shad, halibut, sturgeon, alewives, soles, plaice, cods and smelts. Shell-fish are likewise common. At a short distance from the shores the whale, grampus, and porpoise are found. The fisheries have long proved one of the greatest sources of wealth to the province and furnish the most valuable articles of export. The quantity shipped in 1831, was 161,174 quintals of dry, and 53,665 barrels of pickled fish, the value of which was estimated at 176,145*l*. About 100 boats, and 550 larger vessels are employed in the fisheries. Herring are caught in great quantities in Annapolis Basin.

The province is divided into ten Counties, of which Breton

one. Their position, subdivisions, and boundaries are as follows:—

ton Island—subdivided into North Eastern; North Western; and Southern Districts.

dney—subdivided into Lower Division with 4 Townships; Upper Division with 3 Townships.

Halifax—Halifax District, subdivided into 4 Townships; Colchester District, subdivided into 3 Townships; Pictou District, subdivided into 3 Townships.

umberland—subdivided into 3 Townships.

nts—subdivided into 6 Townships.

ng's—subdivided into 4 Townships.

nenburg—subdivided into 3 Townships.

een's County—subdivided into 2 Townships.

napolis County—subdivided into 6 Townships.

lburne County—subdivided into 4 Townships.

The town of Sydney, the principal settlement on *Breton Island*, was founded in 1823 in a beautiful and apparently a convenient site, but it did not flourish much; at present it contains not more than 60 or 70 houses, and a population of about 500. The town is regularly laid out, the houses are neatly built. The courts of law for the island are here. A considerable trade in coals is carried on at Sydney, there are large collieries near the bay on which the town is built. A great part of the coal raised here is carried to Halifax, and a large portion of the produce is made in fishing vessels belonging to the district, which are employed when the season of the cod-fishery is over. All the settlements hitherto made on Breton Island are situated on the coast or on the shores of the Bras d'Or. The interior may be considered as uncultivated. There are small agricultural settlements at Windham and Cow Bay, around which the soil is fertile and bears an abundance of fine crops. Opposite to Scatari Island is the small harbour of Main-à-Dieu, where an active colony of fishermen is settled. From this place to St. John's Harbour, along the south-east coast of the island, the soil is infertile and offers little inducement for settlers.

Esprit is the eastern point of the southern district, the soil of which is of better quality, and is occupied by populous and thriving settlements. The principal of these settlements are situated on the bays which indent the northern shore of Lennox passage; they are at Ardoise, River Tallon, River Bourgeois, False Bay, Grand Anse, River des Habitans, now called Inhabitants, and Caribacore Cove. Both banks of Inhabitants are settled for 15 miles from its mouth. Perhaps the most flourishing port in Breton Island is Arichat on the south side of Madame Point. Here are several considerable establishments for prosecuting the fishery, and large exports of dry and pickled fish are made to the West Indies, to South America, and to Europe. The population is upwards of

1,500. The north-western district commences in the Gut of Cansu about five miles from its southern entrance, and occupies the whole of St. George's Bay, and within the Gulf of St. Lawrence to Cape St. Lawrence. This district extends backward from the Gut of Cansu to St. George's Bay to near the centre of the island, while on the north-west coast, from Hunter Bay to Cape St. Lawrence, it only includes a strip running parallel to and within five miles of the coast. The western shore of St. George's Bay to Port Hood is well peopled, and there are many settlements along the north-western coast as far as Chiticamp.

The population of Breton Island, in 1831, amounted to 18,000, chiefly emigrants from the western highlands and islands of Scotland, and their descendants. Of this number 9435 were males. There are also many Irish families who have principally been attracted from the fisheries at Newfoundland. The island was at one time resorted to by American loyalists, whose descendants have continued in the cultivation of the soil, and there are also numerous families sprung up from Canadian Frenchmen. There are also some wandering Mic-mac Indians, who frequent the woods and shores. The island sends two members to the provincial House of Assembly.

The population of *Nova Scotia* in 1827, which was the last census, was 123,848, of which 63,536 was males.

Halifax County is by far the largest division of the province, and contains 4,500 square miles, with a population of 46,528. The number of acres in cultivation in this county is 92,776, and uncultivated 2,787,234. None of the other counties contain above 13,000 inhabitants. The town of Halifax was founded in 1749, on the first permanent settlement of the English in the province. It is built on the declivity of a hill 240 feet above the level of the sea, on the west side of Halifax harbour. The streets are paved and laid out with regularity. Including its suburbs, the town is two miles long and half a mile wide; it is the seat of the provincial government, where the legislature has its sittings and the superior courts of justice are held. This port has always been the principal naval station of our North American Colonies, and contains a complete and extensive dock-yard. In point of size and population, Halifax ranks next to Quebec and Montreal among the towns in our North American provinces. The "Province Building," which is in the centre of the town, contains the chambers in which the legislature meet, the offices of the provincial government, and the superior courts of law. In 1827 the town contained 1580 houses, but since that time it has increased considerably. Halifax has a large trade with Great Britain, the British American Colonies, and the United States. Post-office Packets sail from Falmouth in England to Halifax once a month. Opposite to Halifax on the east side of the harbour is the small town of Dartmouth.

The following are the principal towns in *Nova Scotia* after Halifax. Truro is a small place at the head of the Bay of Minas; the houses are

chiefly of wood. Pictou, on Northumberland Strait, has above 3000 inhabitants, and a considerable trade in lumber and coal. Dorchester, on Antigonish river, has also some trade. Guysborough is on the west side of Milford Haven, which is at the head of Chedabucto Bay. Amst is a small place on the isthmus, between Northumberland Strait and Chignecto Bay. Windsor, which is at the confluence of the St. Croix and the Arion, about 30 miles N.N.W. of Halifax, contains a village. Chester, on the north side of Mahon Bay, is a thriving place, and carries on a considerable lumber trade. Lunenburg, near the entrance of Mahon Bay, has a lumber trade with the West India Islands. The Port of Liverpool has the great advantage of being never frozen; the exports of the place are lumber and dried fish, which are sent to Europe. Annapolis is on a peninsula, which projects into the Gut of Digby; though the capital of the province, while it was in the possession of the French, under the name of Port Royal, and until 1750, it is still a very small place. Shelburne, which lies between Liverpool and Cape Sable, is now almost deserted: it was founded by some American loyalists after the recognition of the Independence of the United States, and at one time contained several thousand inhabitants.

The province is administered by a lieutenant-governor, a council of twelve appointed by the Crown, and a House of Assembly, consisting of 41 members, elected by the freeholders. Justice is administered by a supreme court which sits at Halifax, and by district courts. Ecclesiastical affairs are under the direction of the Bishop of Nova Scotia. The chief justice and the bishop are ex-officio members of the Council.

The chief exports of the province are lumber, coals, and fish. The value of the fish and fish-oil exported in 1836, was 186,908*l*. In the same year, above 40,000 tons of coals were exported, and 31,000 tons of gypsum. The imports are British manufactured goods and West India produce. In 1836, 3,404 ships with a tonnage of 381,133, entered the ports of the province, and 3,574 ships with a tonnage of 294,520 cleared out. Of these vessels, 2,433, and 2,652, were respectively from and to Great Britain and British Colonies.—Macgregor's *British America*; Bouchette, *British Dominions in North America*.

NEW BRUNSWICK.

New Brunswick is connected with the Peninsula of Nova Scotia by the Isthmus of Chignecto. On the east it is bounded by the Gulf of St. Lawrence and Northumberland Strait; and on the south by the Bay of Fundy (p. 97). On the west it is bounded by the State of Maine, and by part of Lower Canada, according to the boundary line claimed by Great Britain. The western boundary begins at the mouth of the St. Croix River, which enters Passamaquoddy Bay: it follows the

course of that river and its upper branch the Chiputnaticook into the lakes in which that branch originates. From the source of this branch the meridian of $67^{\circ} 53'$ W. long. forms the western boundary till it strikes the Ristigouche River, about $47^{\circ} 25'$ N. lat. The course of the Ristigouche to the Bay of Chaleurs, and then the Bay of Chaleurs form the northern boundary. New Brunswick lies between 45° and 48° N. lat., and between $63^{\circ} 48'$ and $67^{\circ} 53'$ W. long. The area within these limits is about 26,000 square miles.

The *St. John River* forms the great natural feature of this Province, and nearly the whole basin of this river is claimed by Great Britain. The upper portion of this basin west of the meridian of $67^{\circ} 53'$ may be considered to form part of Lower Canada, but this upper basin is also claimed by the United States as part of the State of Maine. The disputed territory appears, by a rough estimate, to be from ten to twelve thousand square miles. The boundary proposed by the King of the Netherlands, as arbitrator between Great Britain and the United States, follows the course of the St. John upward, from the point where it is struck by the meridian of $67^{\circ} 53'$, to the union of the St. John and the St. Francis; from the point of union it ascends the St. Francis to within about 25 miles of the St. Lawrence, when it strikes the high lands which border the right bank of the St. Lawrence, and runs along them for about 30 miles: it then takes a southern course along the high lands that divide the upper basin of the St. John from that of the Chaudière which flows into the St. Lawrence. This southern line strikes the boundary as claimed by Great Britain, and already described (p. 353) as running westward from Mars Hill. This proposed boundary would give to the United States the larger and better part of the upper basin of the St. John.

The St. John is in all respects the most important river in British America, next to the St. Lawrence, and as a navigable river it is much superior to any stream in the United States north-east of the Hudson. As its basin contains nearly the whole of the disputed territory, and also a considerable part of New Brunswick, this appears the fittest place for a particular notice of the river: the high lands which bound the upper basin, and enclose the disputed territory, are described under Lower Canada.

The basin of the St. John lies between $45^{\circ} 15'$ and 48° N. lat., and between $65^{\circ} 15'$ and $70^{\circ} 25'$ W. long. The upper part of the basin is much wider than the lower; the whole area is roughly estimated at somewhat less than 20,000 square miles, or about two-thirds of the area of Ireland. The main branch rises near $46^{\circ} 10'$ N. lat. near the sources of a branch of the Chaudière and the Penobscot. It flows north-east for about 100 miles parallel to the St. Lawrence, and then bending to the east receives on the right bank the Alaguash, a stream by which a number of lakes discharge their surplus water. The Alaguash rises in a large lake, called Wallagasquigwam, or Windy Lake, 868 feet above the level of

high water in the Bay of Chaleurs. This river is full of falls and rapids, and in a course of 60 miles, from the lake to its junction with the St. John, it descends 348 feet: the great falls of the Alaguash are an impassable barrier to navigation. A few miles further, the St. John is joined on the left bank by the St. Francis, which comes from the north and rises within about 15 miles of the banks of the St. Lawrence; and still lower down it is joined, on the right bank, by the Fish River. About 40 miles below the junction of the St. John and the Alaguash, the St. John is joined on the left bank by the Madawaska, which rises within 20 miles of the banks of the St. Lawrence, and flows through Lake Temiscouata. From the junction of the Madawaska, the St. John runs a S.S.E. course of about 40 miles to 47° N. lat. where the Great Falls occur, which are about 74 feet of perpendicular height. In addition to these 74 feet, there is a descent of 45 feet through a rocky channel, making altogether a sudden descent of near 120 feet from the upper into the lower basin of the St. John. Flat-bottomed boats ascend the river up to the base of these falls, which is a distance of near 200 miles from the sea, measured along the windings of the river. From the Great Falls the course of the river is first south, and then south-by-east to 46° N. lat. In this part of its course the St. John receives on the right bank the Roostuck, or Aroostook, which is a considerable stream; and within these limits it flows between steep banks, and the navigation is often difficult. From the Meductic Falls, near 46° N. lat., the river begins to turn to the east, and continues in this direction past Fredericton for 60 miles, when it takes a general south course and enters the Bay of Fundy between the town of St. John on the left bank, and Carleton on the right. There are rapids six or seven miles above Fredericton. Below the point where the river finally bends to the south it communicates on the left bank with several lakes, or rather broad expanses of water, which are fed by streams that rise within the limits of New Brunswick. With the exception of the waters of these rivers, and the Tobique, which joins the St. John between the Great Falls and the Meductic, this river receives no large affluent on its left bank. The whole length of the St. John is about 400 miles. It is navigable for sloops to Fredericton, a distance of 80 miles. About a mile above St. John are the Rugged Narrows, where the stream is interrupted by huge rocks and is only navigable for a short time before and after high water. The tide at the mouth of the river rises about 30 feet; and some authorities make it more than twice this amount. In Cumberland Basin, at the head of the Bay of Fundy, the highest rise of the spring-tides is 81.65 feet; and it is assumed that the rise in the St. John, at Chapel Bar, which is 50* miles above the mouth of the St. John, is as

* Chapel Bar is stated, in the Boundary Commissioners' late Report, to be a few miles below Fredericton, and 50 miles from the mouth of the St. John. According to their own map, Fredericton is at least 75 miles from the mouth of the river. According to the series of levels which they give from Fredericton, on the St. John, to the Great Falls, Chapel Bar is above Fredericton.

great as in Cumberland Basin. As this river flows through three degrees of latitude, and the upper basin is probably, on an average, 400 or 500 feet above the sea level, the higher parts of the St. John have a rigorous climate in winter. At that season the river is frozen and the high road between the south parts of New Brunswick and Canada follows the banks of the river, and the larger part of the journey is performed on the ice. The following are the distances travelled by the post; from St. John to Fredericton on the east side of the river 86 miles; to the Great Falls 130 miles; to Lake Temiscouata 62 miles; Portage 15 miles; to the St. Lawrence 36 miles; to Kamouraska 15 miles; to Quebec 90 miles: in all, 434 miles from St. John.

The soil of the St. John Basin is generally fertile, and a great part of it is covered with heavy timber. There are settlements on both sides of the St. John, from the Great Falls upwards to the confluence of the St. John and the St. Francis: these settlements are included under the general name of the Madawaska Settlements.

The course of the rivers in New Brunswick indicates the general slope of the country: with the exception of the affluents of the St. John already mentioned, the rivers flow into the Bay of Chaleurs and the Gulf of St. Lawrence. The coast along the Gulf and Northumberland Strait is level and has generally a sandy soil. The country does not rise much till it attains a distance of twelve miles from the shore, when it begins to rise gradually. The descent to the St. John River is much shorter than the rise, and consequently more rapid. The tracts which form the highest part of these two slopes do not attain any great elevation, and the whole hilly country is a kind of high table-land furrowed by the streams which run westward to the St. John, and eastward to the Gulf. This hilly tract is covered with lofty forest trees. There is a considerable extent of level country along the St. John, particularly as far north as Presqueisle, 46° 20' N. lat. The most mountainous part of the province is the northern tract, especially about the sources of the Tobique, and the upper part of the Ristigouche. This broad and elevated tract, which is very little known, extends from the St. John, below the Great Falls, in a north-east direction, to the Bay of Chaleurs, and completely separates the basin of the Ristigouche from the southern part of New Brunswick. This natural boundary, within which the whole course of the Tobique is contained, is described under Lower Canada. The settlements higher up than the junction of the Tobique and St. John are comparatively few.

The southern portion of the province lies along the Bay of Fundy, and extends 50 or 60 miles inland. The part east of the St. John River forms a table-land several hundred feet high, and is rather barren. The coast is very little broken, and is high and rocky. This district does not supply any timber, except in the valleys of the Kenebekasis, Washedemoak, and the other streams which join the lower course of the St. John on the left bank.

The southern part of the province, on the west side of the St. John, has a better soil. Though the surface is rocky and uneven, it is covered with a good earth, and is well watered. The coast is rocky, but not so high as that part which is east of the St. John River. This tract contains Passamaquoddy Bay, in which there are several considerable islands, of which Grand Manan Island, Deer Island, and Campobello are the principal. This Bay receives numerous streams; the St. Croix, or Scodic, is navigable to St. Stephens.

The Ristigouche, which enters the head of the Bay of Chaleurs, has a course of about 100 miles. The Bay of Chaleurs is about 85 miles long and 15 miles wide at its entrance. It receives numerous streams, both from the Peninsula of Gaspé on the north, and from New Brunswick on the south. The Nipisighit, which enters this bay on the south side near Bathurst, and drains the northern part of the province, has a course of 70 or 80 miles, which is much interrupted by rapids. The Miramichi, which drains the central part of the province, runs along the eastern slope and enters Miramichi Bay: it is the chief river of the province next to the St. John. Its course is about 120 miles, and it is navigable for near 40 miles: it admits vessels of 600 or 700 tons. The basin of this river contains abundance of fine timber, and a considerable trade in the export of this article is carried on from Miramichi Bay. The Petcoudiac, which drains the southern part of the eastern slope, enters Shepody Bay, one of the two branches in which Chignecto Bay terminates.

In the southern part of New Brunswick the winter frequently does not regularly set in till December, but snow sometimes falls in October, even in the lower part of the basin of the St. John, and early frosts often injure the crops. The winter in the upper basin of the St. John commences earlier than in the lower basin, and lasts longer. The country is covered with snow for about four months in the year. The spring, as usual in these latitudes, is short: it begins about the end of April and is soon succeeded by hot weather. The heat in summer is often intense; the thermometer sometimes rises as high as 90°; westerly winds on the whole prevail. The country is generally healthy.

The chief products of New Brunswick are timber, of which there is the usual variety found in North American forests, but the pine is the chief timber that is exported: Indian corn is grown in the southern parts of the province; flax, wheat, and other cerealia, and good potatoes are raised. On the low lands near the rivers there is good grass. The cleared and cultivated land is a very small proportion of the whole surface. Grain is raised in the upper basin of the St. John.

There are still a few bears and wolves: the moose is found in the upper basin of the St. John. Ducks and wild geese are common. The rivers and bays abound in fish; salmon and trout are caught in the

fresh waters; and cod, mackerel, and herrings, in great quantities on the coast.

Gypsum is got along the coast of the Bay of Fundy, and grinding-stones are cut near Shepody Bay; both of them are exported to the United States. Coal is worked on the banks of Grand Lake, which communicates with the St. John River. Iron-ore is common, but it is not worked.

The chief part of the inhabitants are British settlers and their descendants. There are a few inhabitants of French stock, who are principally settled on the Bay of Chaleurs; and there is a small number of Micmac and other Indians in the northern part of the province.

The chief town is Fredericton, on the right bank of the St. John, which is also the seat of Government. Most of the houses are built of wood. It contains a few public buildings, and about 3000 inhabitants. King's College, in Fredericton, has an income of about 2000*l.* a year, and a grammar-school attached to it. The largest town in the province is the City of St. John, at the mouth of the St. John River, and on the left bank. The population is about 10,000. St. John carries on a considerable trade, and many ships are built here. The materials for ship-building, except the timber, are sent out from England to St. John, and the ships when finished are forwarded to England with a cargo, and often sold. The average number of ships annually built in the Province, from 1832—1836, both years included, was eighty-five, with an average tonnage of 22,065. St. John has a grammar-school, Sunday-school, savings' bank, and various societies. St. Andrews, situated on a peninsula, which projects into Passamaquoddy Bay, has about 3000 inhabitants. Newcastle on the Miramichi River, is engaged in the timber trade. Bathurst is a small fishing town on the Bay of Chaleurs.

The population of the province, according to the census of 1831, the last that we have seen, was 119,457, of whom 62,513 were males. The emigration to the province is very considerable, though it has probably been somewhat diminished of late years. In 1834, 7717, in 1835, 3307, and in 1836, 5886 emigrants landed in the colony, but it is not known how many permanently settled themselves there: it is probable that a considerable number went to Canada or the United States. By an act of the legislature, provision is made for a grammar school in each county: 90*l.* per annum is appropriated to each school, on condition of the inhabitants of the county subscribing half that amount. Nine of the counties have at present grammar-schools. Provision is also made for parish schools by the legislature on similar conditions: 120*l.* colonial currency are annually appropriated to each school, as soon as the inhabitants contribute the same sum annually and build a school-house. Under this act, there were in 1836, 480 schools in the province,

attended by 6424 boys, and 5078 girls. The established religion is that of the Church of England. There are also numerous members of the Scotch Church, and Roman Catholic priests, and Wesleyan, Baptist, and Independent ministers. The province is within the diocese of the Bishop of Nova Scotia.

The chief exports of the province are timber and dried fish: some gypsum, coals, and a little corn are also exported. The imports are British manufactures, colonial produce, and the necessary materials for ship-building, except timber. In the year 1836, 2992 vessels, with a tonnage of 337,060, entered the ports of the province, of which 1918 were from British Colonies, with a tonnage of 118,394; 512 from Great Britain, with a tonnage of 157,862; and 543 from the United States, with a tonnage of 56,626. The number of vessels that left the ports of the province in that year was 2801, with a tonnage of 347,035, of which 318, with a tonnage of 18,670, were bound for the United States, and the remainder (except 6 to Foreign States) to Great Britain and the British Colonies. The shipping that belonged to the Province in 1836 was 587 vessels, of 81,425 tons, navigated by 3658 men.

The Government of New Brunswick consists of a Lieutenant-governor appointed by the Crown, an Executive Council, a Legislative Council of 13, and a House of Assembly of 28 members, returned by the ten counties into which the Province is divided, including two members for the City of St. John. The Supreme Court is composed of a chief and three other justices. There is also a Court of Chancery, a court for granting probates of wills and letters of administration of the estates of intestates, a court for hearing and determining causes relating to marriage and divorce, a court of Vice-Admiralty, and a court for the trial and punishment of piracy.—Macgregor's *British America*; Bouchette; *Commissioner's Report hereafter referred to*; *New Brunswick Almanac*.

CANADA.

The boundaries of Canada on the north are not determined by any line. It is generally considered that all the parts north of the Great Lakes which are drained by rivers which fall into the St. Lawrence belong to Canada. The most southern point of Canada is Point Pelée, or South Foreland (41° 47' N. lat.), the termination of a long peninsula, which projects into Lake Erie. The most northern point of Canada, as above determined, is between 52° and 53° N. lat. The most eastern point of Canada is Cape Gaspé, 64° 15' W. long. The western boundary does not appear to be accurately determined; but it is generally considered to be about 90° 20' W. long. The southern boundary-line, which

is formed by the United States, has been already described (p. 352) and the boundary-line between Canada, New Brunswick, and the United States, is discussed under Lower Canada. The extreme length of Canada, within the limits here assigned to it, is about 1300 miles, and its greatest width from north to south is about 400 miles. It is very difficult to make any approximation to the area of the province comprised within the above limits; but it is, perhaps, more than 400,000 square miles, or eight times the surface of England without Wales. All that part of Canada which is north of the Great Lakes is included within the basin of the St. Lawrence. The part on the south of this river, which is a small proportion of the whole of Canada, is also within the basin of the St. Lawrence, except the disputed territory, which comprehends the upper basin of the St. John River (p. 388). This country was till lately divided into the two Provinces of Upper and Lower Canada. :

The *climate* of this extensive region which is comprehended under the name of Canada, though it presents considerable varieties, if we examine it in detail, may yet be generally characterised in a few words:—the summers are very hot, and the winters are very cold; the thermometer in summer sometimes rises above 100°, and in winter it descends to the freezing-point of mercury (40° below zero of Fahrenheit). Yet the differences of climate, even within the limits of the settled parts of Canada, are very considerable. Amherstburg, at the western extremity of Lake Erie, is near 42° N. lat., and Quebec, on the St. Lawrence, is near 47° N. lat., a difference of near five degrees of latitude, in addition to near twelve degrees of longitude. Besides this, that portion of Canada which contains Amherstburg is low, and almost insulated by the great lakes; while Quebec is in an elevated position, and exposed to the unmitigated rigours of the north-west winds. Accordingly the winter at Amherstburg may be called mild compared with the cold of Quebec. If we were to contrast the milder parts of Upper Canada with the still colder and unsettled parts of the country, we should find the differences even greater.

In the settled parts the country is covered with snow, and the rivers are frozen from two to five months in the year, according to the locality. That part of Canada which is east of Lake Ontario, and which comprehends a portion of Upper, and the whole of Lower Canada, is much colder than the settled parts of Upper Canada, which lie further west. The high lands in the latitude of Quebec, south of the St. Lawrence, are often covered with snow before the end of October. The St. Lawrence, below Quebec, is not covered with compact ice in the winter, only because the great rise of the tide prevents it; but the river cannot be navigated for six months out of the twelve. The rigorous winter of Lower Canada makes the ground as hard as iron, and turns all the rivers into safe high-roads. This season is therefore much more pleasant in Lower Canada than the winter of the middle States of the

erican Union, or of the southern parts of Upper Canada, where the is neither so great nor so uninterrupted. The prevailing winds are in the north-west, south-west, and north-east. The atmosphere is generally dry and clear, except occasionally in the latter part of the summer.

The *agricultural productions* of Canada are the usual grains and vegetables of Europe. Indian corn is successfully cultivated in many parts, and also tobacco, nearly as far east as Quebec. But the higher temperature of the settled parts of Upper Canada is shown by the fact, that various fruits, as the peach and grape, come to perfection there, though they will not ripen in the colder parts of Lower Canada. In the high lands in and about Quebec seem to form a kind of boundary between the colder region to the east and the warmer to the west. The produce of the forests, which still cover so large a part of the country, furnish a staple article of export. In its natural state, nearly the whole basin of the St. Lawrence is a region of forests, in which respect it forms a contrast with that of the Mississippi, which is diversified by extensive prairies. A considerable quantity of sugar for domestic use is made from the maple tree.

The wild animals are deer, bears, wolves, wild cats, beavers, and moose. The moose is found in the upper basin of the St. John, and in other parts of Canada. The rattlesnake also occurs in Canada.

Fish is abundant in the lakes and rivers; salmon, white fish, bass, and fish called masquinongé, and others, are taken by the fishermen. The fishing is carried on by the Indians, even when the lakes are frozen, by making a hole in the ice and spearing the fish. The lakes are also frequented by numerous wild fowl as soon as the ice breaks up.

UPPER CANADA.

The Province of Upper Canada is situated on the north side of the river St. Lawrence, between $41^{\circ} 47'$ N. lat. and the northern boundary already mentioned: the most eastern point is in $74^{\circ} 30'$ W. long. It is bounded on the south by the territory of the United States, on the north by the Possessions of the Hudson's Bay Company, and on the east by Lower Canada. The western frontier, as already observed, cannot be easily defined.

By the Act of Parliament which divided the Upper from the Lower Province the line of division between them is declared "to commence at a stone boundary on the north bank of the Lake of St. Francis, at the place west of Point au Baudet, in the limit between the township of Newcastle in the Upper, and the seignory of New Longueuil in the Lower Province." Running along the said limits north-west to $45^{\circ} 17'$, its direction is then altered to N. 25° E., until it strikes the Ottawa River at Point Fortune, in lat. $45^{\circ} 31'$, long. $74^{\circ} 30'$. The line

then ascends the river to Lake Temiscaming, "and from the head of the said lake proceeds in a line due north, until it strikes the southern boundary-line of Hudson's Bay, including all the territory to the west and south of such line."

Although this province is an inland country, it enjoys many of the advantages of a sea-coast. The vast lakes which it contains, and by which it is partially bounded, offer many convenient situations for trading towns; and a direct navigable communication is maintained between these lakes and through the River and Gulf of St. Lawrence with the Atlantic Ocean.

The waters so abundantly distributed through the province may be considered its chief geographical feature. The St. Lawrence, which, before it obtained that name, was known as "the great river of Canada," is the most important of the rivers of this province, being the channel of communication with other countries, and also between different and distant parts of the province. The General Description of the Basin of the St. Lawrence has been already given (p. 84).

The St. Lawrence has various names in different parts of its course. It has its source about 48° 30' N. lat., and 93° W. long., where it has the name of the *St. Louis*, which it retains until it enters the south-western extremity of *Lake Superior*. The channel which connects *Superior* with *Lake Huron* is called *St. Mary's River*. Issuing from *Lake Huron*, at the southern extremity of that lake, the river then called the *St. Clair* flows due south into the lake of the same name. Between the Lakes *St. Clair* and *Erie* the river is called the *Detroit*. From the extremity of *Lake Erie* it takes a general north course, under the name of the *Niagara River*, in which the Great Falls occur, and enters *Lake Ontario*. The river flows from *Lake Ontario*, at *Kingston*, and, taking the name of the *Cataraqui*, or *Iroquois*, runs north-east, forming in its course several wide expanses, which are called lakes; one of these lakes, *St. Francis*, is part of the eastern boundary of the Province of Upper Canada. Continuing its north-eastern course, it passes through *Lake St. Louis* to *Montreal*, below which city it first takes the name of the *St. Lawrence*. After passing *Quebec* it becomes a broad æstuary, and enters the Gulf of St. Lawrence, by a mouth above 100 miles wide at *Point Gaspé*. In this course of nearly 1900 miles, the St. Lawrence and the Great Lakes receive numerous streams. The principal of these rivers are the *Thames*, which enters the basin of the St. Lawrence at *Lake St. Clair*; the *Ouse*, or *Grand river*, which flows into *Lake Erie*; the *Ottawa*, which passes through the *Lake of the Two Mountains*, and joins the *Cataraqui* between *Lake St. Francis* and the *City of Montreal*, at the western extremity of the island on which *Montreal* stands; the *Maskinonge*, which falls into *Lake St. Peter*; the *St. Maurice*, which joins the St. Lawrence at the town of *Three Rivers*; the *Batiscan* and *St. Ann*, which join the main

stream about 20 or 25 miles lower down; the *Jacques Cartier*, which falls into the St. Lawrence half way between the last-mentioned river and the City of Quebec; and the *Saguenay*, which joins the St. Lawrence at Lark Point, about 120 miles below Quebec. The basin of the St. Lawrence receives no large rivers from the south, either within the limits of the United States or of Canada. All the rivers which flow into this basin from the south, within the limits of Canada, are in that part of Canada called Lower Canada, which is east of the junction of the Ottawa and the St. Lawrence. The principal of these rivers are the *Chateauguay*, which enters Lake St. Louis; *Richelieu*, *Yamaska*, *St. Francis*, and *Nicolet*, which flow into Lake St. Peter; *Becancour*, *Du Chêne*, and *Chaudière*, which fall into the St. Lawrence between Lake St. Peter and Quebec; and the *Metis*, which enters the St. Lawrence between Quebec and the Gulf of St. Lawrence.

The Great Lakes have been described generally in a previous part of this work (p. 85): so far as they lie within the limits of Canada, they belong to the Upper Province.

The north coast of Lake Superior, from about 90° W. long., belongs to the British. This coast is broken by numerous bays and inlets, and lined with many islands, which furnish shelter to vessels during the storms to which this lake is subject. The rocks on this coast often rise abruptly several hundred feet. Some considerable rivers enter the lake within the limits of Upper Canada, and innumerable small streams which have a rapid course. The country along the lake is dreary, and contains few trees.

Superior and the other great lakes rise, in some seasons, from three to five feet above their usual level. The waters of Lake Superior are singularly transparent. The Strait of St. Mary, which is about forty miles long, and terminates in the north-west angle of Lake Huron, unites these two large bodies of water. About fifteen miles from Lake Superior are the Falls or Rapids of St. Mary, which are about two miles long. The Rapids are caused by a contraction of the channel. Vessels cannot stem this torrent; and the passage downwards is so dangerous, that it is rarely attempted, and then only by canoes. A portage, two miles long, connects the navigable parts of the river. The river is navigable below the Rapids to the Huron Lake for vessels that draw six feet water.

Lake Huron is of very irregular shape: if measured from N. N. W. to S. S. E. the length is about 240 miles; the greatest breadth, in a direction nearly W. N. W. and E. S. E., is about 220 miles. The southern division of the lake for fifty miles north of its outlet by the River St. Clair is not wider than fifty or sixty miles. The Manitoulin Islands, in the north part of the lake, and the long peninsula which terminates in Cabot's Head and Cape Hurd, divide Lake Huron into two parts. The northern and eastern part, called Georgian Bay, is

above 200 miles long: a passage about twenty miles wide, between the northern extremity of Cabot's Head and the Grand Manitoulin Island, connects Georgian Bay with the main part of the Huron. The group of islands called the Manitoulin Islands consists of one large and many small islands. The Grand Manitoulin is seventy-five miles long and twenty-three broad in the broadest part. The name of Manitoulin was given to these islands by the native Indians, who believed that the Great Spirit, or Manitou, consecrates them by his presence. Drummond Island, which may be considered one of the group, is within the limits of the United States; the others belong to Great Britain. The tract of country between Lake Huron and Georgian Bay forms a long narrow peninsula. The southern part of Georgian Bay is called Natawasauga Bay, and the shores of this part of the lake are high. The east side of Georgian Bay is deeply indented with numerous inlets, and lined by almost countless small islands. The ascent from this shore leads to a table-land, which is hereafter described. Lake Huron is connected on the north-west by the Strait of Michilimackinac with Lake Michigan, which is wholly within the territory of the United States. At its south-eastern extremity Georgian Bay has a communication through the River Severn with Lake Simcoe, which lies midway between it and Lake Ontario. Near its north-eastern corner, in $44^{\circ} 55'$ N. lat. and $81^{\circ} 5'$ W. long., it also receives, through the River Francair, the waters of Nipissing Lake.

The River St. Clair, which connects the lake of the same name with Lake Huron, is thirty miles long, and is navigable for vessels of moderate burthen. The Lake St. Clair is of a circular shape, and generally so shallow as to be navigable only by vessels of small draught. This lake receives the waters of two considerable rivers from the eastward, the Thames and the Great Bear Rivers. The Detroit, which unites Lake St. Clair and Lake Erie, is navigable by such vessels as can pass through Lake St. Clair. There is an excellent harbour at Amherstburg, near the entrance of the Detroit into Lake Erie.

The average depth of Lake Erie is not more than seventy feet: this average depth is said to be gradually lessened by deposits, which are constantly carried down by the rivers which discharge themselves into the lake. The western part of the lake contains several islands, the principal of which are Pelée Island, belonging to the British, and Cunningham Island, in the possession of the United States, to whom the entire south shore of the lake also belongs. The outlet of Lake Erie is the Niagara River; at its north-eastern extremity. The Falls of Niagara interrupt all direct water-communication between those parts of the Canadian Seas which are to the east and west of it. To remedy this inconvenience, a ship-canal has been made between Lakes Erie and Ontario. The first branch of this canal consists of a cutting, twelve miles long, which connects the entrance of the Grand River with the Welland

River ; the canal follows the course of the latter stream, in a curved line towards the north-east for ten miles, when another cutting, sixteen miles long, connects the Welland River with Lake Ontario. The level of this lake is 330 feet below the surface of Lake Erie, which descent is accomplished by means of thirty-seven locks, the chambers of which are each 100 feet long and 22 feet wide. There is a second entrance to the canal by the Welland or Chippeway River, which flows into the Niagara above the Falls, and is navigable by vessels of moderate size. The principal entrance, by the Grand River, offers an advantage to vessels proceeding to or from the southern and western parts of Lake Erie by considerably reducing the length of their voyage ; besides which, in the spring of the year, this entrance becomes navigable sooner than the eastern extremity of the lake, where a great accumulation of ice is formed through the prevalence of westerly winds, so that the entrance of the Niagara is long obstructed by it. The surface width of the Welland Canal is 56 feet ; it narrows to half that width at the bottom ; the depth is $8\frac{1}{4}$ feet, which is considered sufficient for the class of vessels calculated to carry on the inland traffic of the province.

The eastern bank of the Niagara, as well as the whole southern margin of Lake Erie, is within the limits of the United States. The entrance of the river, between Fort Erie, on the Canadian shore, and Buffalo, in the State of New York, is about a mile wide, and the banks are very little elevated above the stream. Contracting soon after to one-half of that width, the stream flows with considerable rapidity ; but the river again widens a little lower down, and the waters become more tranquil. In this part of its course it flows past four small islands belonging to the United States. On passing the last of these islands the river is divided, and the two arms flow respectively north-east and north-west, so as to encircle Grand Isle, which belongs to the United States. Near the point where these two arms re-unite is Navy Island, the only island in this river which is possessed by the British. The stream then runs in a westerly course for three miles and a half before it reaches the Falls, which are twenty miles from the head of Lake Erie. When it arrives at this point the river turns suddenly from a westerly to a north-by-east course. At the head of the Falls, and near the American side, is Goat Island, which divides the Falls unequally : the channel on the east side is considerably narrower than the other, which is called the Horse-shoe, or more commonly the Great Fall, while the smaller is known as the American Fall. The difference of elevation between the surface of Lake Erie and the head of the Falls of Niagara is 66 feet, 51 of which are comprised within the last half-mile, and in this space the water is violently agitated. On reaching Goat Island the water is more tranquil, and the river flows in a broad and rapid current to the rock, over which it is precipitated into the gulf below. The perpendicular distance through which the water falls is 162 feet, and the

entire width of the two sheets of water is 3240 feet. The tremendous roar of the waters can sometimes be heard at the distance of forty miles.

Mr. Darby has stated that the elevation of Lake Erie above that of Lake Ontario is 334 feet; fifteen feet of this difference are accomplished between the outlet of Lake Erie and the head of the Rapids, 51 feet in the course of those Rapids, 162 feet the actual perpendicular fall, and the remaining 106 feet from the base of the Falls to the entrance into Lake Ontario. Below the Falls the river flows in a deep chasm, between banks that are from 250 to 300 feet high, and in the upper part nearly perpendicular: at Queenstown it passes the range of high land called Queenstown Heights, below which it enters the level of Lake Ontario. About half a mile below the Falls a perfectly safe ferry has been established. Between four and five miles lower down, however, a whirlpool is occasioned by a sudden bend of the river, by which its course is checked: the waters are thus thrown back with great violence, and, meeting the downward current, form a vortex, which would be destructive to anything brought within its reach. From the base of the Falls to the mouth of the river in Lake Ontario the distance is thirteen miles, the junction being near to the south-western corner of the lake.

The enormous volume of water which constitutes this magnificent cataract passes over a limestone rock, lying in horizontal strata. Below the limestone there is a soft shale, which is rapidly crumbling, in consequence of which the upper rock overhangs the lower, and fragments of it occasionally fall. In this way the position of the Falls is gradually receding towards Lake Erie. It seems not improbable that the Falls were once at Queenstown, and that the deep channel between Queenstown and the Falls has been made by the same causes that are now in operation. The high land extends from Queenstown backwards to Lake Erie.

The depth of Lake Ontario varies exceedingly in different parts, being in some places not more than three fathoms, while soundings are not found in the centre at 100 fathoms. The lake contains several commodious harbours on the Canadian shore; among these are Burlington Bay, at its western angle; York, nearly opposite to the mouth of the Niagara; Kingston, at the north-eastern angle of Ontario, and near the entrance of the Cataraqui. Sacket's Harbour, on the eastern coast, belongs to the State of New York.

Grand Isle, at the entrance of the Cataraqui, divides the stream into two channels: that on the north is called the Kingston Channel, and the other Carleton Island Channel.

The great extent of these Canadian lakes renders it a matter completely unimportant, that the sovereignty of them is divided between two independent powers. The Cataraqui, from Lake Ontario to near the western extremity of the Lake St. Francis, is also divided between

the same powers; but this part of the river is so narrow that either government can stop all communication between the Upper and Lower Provinces on the one side, and between the Western States and the north-eastern part of New York on the other. An artificial outlet for the commerce of a large part of the United States has accordingly been formed at great expense, wholly within the limits of the United States. This is the Erie Canal, which connects the waters of Lake Erie with those of the River Hudson, and through this river with the Atlantic (p. 261).

On the British side the Rideau Canal connects Lake Ontario with the Ottawa River; and thus the necessity of navigating the Cataragui is avoided. This canal commences near Kingston, at the mouth of the Cataragui, and strikes the Ottawa at Bytown, situated at the foot of the Falls of Chaudière. Through its whole course of 150 miles it is navigable by steam-vessels 134 feet long, 33 wide, and drawing five feet water. Rideau Lake, through which the navigation passes, is 154 feet above the level of Lake Ontario, and 283 feet higher than the surface of the Ottawa. These differences of elevation are overcome by seventeen locks between Kingston and Lake Rideau, and thirty locks between that lake and Bytown. The completion of this canal is yet too recent for any sufficient estimate to be formed of its actual advantages; but benefits are expected to flow from it to many districts of the province, which, even in the absence of all collision with the American Government, will amply repay the expense of its construction.

From Bytown the navigation takes the line of the Ottawa to the eastward. The course of this river being interrupted by various dangerous rapids, other canals have been cut in order to avoid them. The principal of these works, the Grenville Canal, is sixty-four miles above Montreal; and to this point the navigation downwards may be continued in vessels of the above-stated dimensions. The construction of this work was undertaken before that of the Rideau Canal, and with a more limited object, the projectors being satisfied with adapting it for the use of vessels only twenty feet wide; consequently either the traffic on the whole line must be confined to vessels of this size, or trans-shipments must be made at this point to other boats for the completion of the voyage to Montreal. It has been proposed to remedy this inconvenience by enlarging the Grenville Canal; and it seems probable that the advantages of such a plan will, in course of time, become sufficiently obvious.

Two other cuttings have been made a few miles below the Grenville Canal, one at Châte à Blondeau, and the other at Carillon Rapids. These works were undertaken to avoid two difficult points in the Ottawa, the navigation of which is practicable from those points to La Chine, on the Lake of St. Louis, on the south-west side of the Island of Montreal, and nine miles above that city. From this spot another canal, called

the La Chine, has been cut to the city, in order to avoid a very dangerous rapid called the Sault St. Louis: this canal forms the last of those works by which the St. Lawrence has been rendered navigable through so large a portion of its course. Below the city of Montreal, to the mouth of the river in the Gulf of St. Lawrence, a course of 580 miles, the stream is sufficiently deep, and free from obstructions, to allow the passage of ships of 600 tons burthen. Ships of the line can ascend to Quebec.

At the outlet of the Cataraqui River from Lake Ontario, and for nearly forty miles of its course, the navigation is rendered extremely intricate by the numerous islands. It is said that within the limits above described there are 1692 small islands. Through the entire distance between Kingston and Montreal, 190 miles, there are all the marks of prosperity. There are well-constructed roads, highly-cultivated inclosures, and thriving settlements. At those seasons of the year when the navigation of the river is open, it is covered with vessels and boats,—the undoubted evidence of the industry and prosperity of the inhabitants of these provinces. In one year 693 laden vessels and rafts have entered the Port of Montreal from Upper Canada and the United States. In addition to these trading-vessels, numerous steam-boats, for the conveyance of passengers, are constantly plying.

Upper Canada, according to some estimates, contains 141,000 square statute miles, or upwards of ninety millions of acres, not one-fourth part of which has hitherto been surveyed or laid out in townships. The surveyed portion of the province is divided into eleven districts, which are further divided into twenty-six counties; two of these counties are subdivided into six ridings. The whole comprise 277 townships, each containing on the average about 60,000 acres. A part of each township has been reserved by the Crown for public purposes, and nearly one-half, or about 7,000,000 acres, of the unreserved portion has been already granted to settlers, in full ownership, leaving about 5,000,000 acres still to be granted within the townships, exclusive of the reserves.

Beginning from the frontier-line, which separates the Upper from the Lower Province, and proceeding thence in a westerly direction, the districts and counties are as follow:—

Division.	Counties.	No. of Townships.	
EASTERN	Glengarry	4	{ Begins at the eastern extremity of the province, is bounded on the S. by the Cataraqui River, on the N. by Ottawa Division, and on the W. by Johnstown Division.
	Stormont	4	
	Dundas	4	
OTTAWA	Prescott	6	{ Bounded also on the E. by Lower Canada, on the S. by Eastern Division, on the N. by the Ottawa River, and on the W. by Bathurst Division.
	Russell. . . .	6	

Division.	Counties.	No. of Townships.	
JOHNSTOWN	Grenville	8	{ Bounded on the E. by Eastern Division, on the S. by the Cataraqui, on the N. by Bathurst Division, and on the W. by Midland District.
	Leeds	10	
BATHURST	Carleton	9	{ Bounded on the E. by Ottawa, and the S. by Johnstown Districts, on the N. by the Ottawa River, and the W. by Midland District.
	Lanark	10	
MIDLAND	Frontenac	14	{ Bounded on the E. by Bathurst and Johnstown Districts, on the S. by Lake Ontario, on the N. by unsurveyed districts, and W. by Newcastle District.
	Lennox and Addington	9	
	Hastings	12	
	Prince Edward	5	
NEWCASTLE	Northumberland	18	{ Bounded on the E. by Midland District, on the S. by Lake Ontario, N. by unsurveyed lands, and W. by Home District.
	Durham	12	
HOME	York { E. Riding	16	{ Bounded E. by Newcastle District, S. by Lake Ontario, N. by Georgian Bay in Lake Huron, and unsurveyed lands, and W. by Gore and London Districts.
		5	
	Simcoe	31	
GORE	Halton	16	{ Lies between Home District on the N. and E., London on the W., and Niagara on the S.
	Wentworth	5	
NIAGARA	Lincoln { 1st Riding	4	{ Bounded on the E. by the River Niagara, on the N. by Lake Ontario and Gore District, on the S. by Lake Erie, and on the W. by London District.
		3	
		3	
		5	
	Haldimand	2	
LONDON	Norfolk	10	{ Bounded E. by Home, Gore, and Niagara Districts, S. by Lake Erie, N. by Lake Huron, and W. by the same lake and Western District.
	Oxford	9	
	Middlesex	14	
WESTERN	Kent	14	{ Bounded E. by London District, S. by Lake Erie, N. by Lake Huron, and W. by the boundary line of the United States.
	Essex	9	
		Total .	277

The natural boundaries of the country, which is divided into these eleven districts, are as follow:—On the south, Lakes Erie, Ontario, and the St. Lawrence; on the west, Detroit River, Lake St. Clair, the River St. Clair, and the southern part of Lake Huron; on the north Georgian Bay, which is a part of Lake Huron, the high lands north of Lake Simcoe, which take a general easterly course to the junction of the Madawaska and the Ottawa River, and then the Ottawa River. On the east there is no natural boundary which separates Upper from Lower Canada.

Upper Canada is not a mountainous country. That part which lies along Lake Superior and the north shore of the Huron as far east as

the mountains of La Cloche, is little known. The mountains of La Cloche commence on the north shore of the Huron, between 81° and 82° W. long., opposite the island of Grand Manitoulin, and run in a general north direction. The country west of these mountains is supposed to be a table-land, which contains some small hills and numerous lakes: there are no agricultural settlements in it.

The tract between Georgian Bay and the upper part of the Ottawa, which enters the St. Lawrence, is an elevated table-land with an irregular surface. Its southern boundary begins, on the west, between Lake Simcoe and Lake Muskoka, which is north of Lake Simcoe, and it runs in a general east direction, keeping about 20 or 25 miles south of 45° N. lat., nearly as far as 76° W. long. The country rises rather rapidly from the shores of Georgian Bay to an elevation of 750 feet above the Lake, or 1344 feet above the Atlantic. This western portion of the table-land contains timber-trees of hard wood, the indication of a fertile soil. It is bounded on the north by Nipissing Lake (750 feet above the sea), the waters of which flow into the north part of Georgian Bay by the River Français, which contains several rapids; and it is bounded on the east by a depression containing numerous lakes, part of which discharge their waters into the Ottawa by the river Nesswabic, and part discharge their waters into Trading Lake and Muskoka Lake, and from the latter into the southern part of Georgian Bay. The eastern and larger part of this table-land, which lies between the depression just described and the Ottawa, is deeply furrowed by many valleys, the drainage of which belongs to the basin of the Ottawa. The Ottawa, which forms the eastern boundary of this district, rises in the high land which separates the basin of Hudson's Bay from that of the St. Lawrence, and probably in about 48° N. lat. In the upper parts of its course it passes through Lake Temiscaming, but there is no settlement higher up the river than on the lakes called Les Allumettes, through which the Ottawa passes, and where it is joined on the right bank by the Nesswabic. Just below the junction of the Nesswabic the river divides into two branches which enclose the large island called Black River Island; and lower down is the still larger island called Grand Calumet Island. About $45^{\circ} 25'$ N. lat., at the lake des Chats, the Ottawa is joined on the right bank by the Madawaska, which comes from the table-land: the Madawaska runs through several lakes, and contains numerous rapids. The falls called Chaudières, the chief of which is said to be 60 feet high, occur lower down near the junction of the Rideau Canal with the Ottawa: from the falls the river is navigable to the Long Sault, a rapid which occurs near Grenville; the distance from the Chaudières to Grenville is about 60 miles along the river. Below Grenville the Ottawa becomes much wider, and is called the Lake of the Two Mountains: this wide opening unites with that expanse of the St. Lawrence which contains the Island of Montreal. The

whole course of the Ottawa is probably 400 miles. In its course through the table-land the banks are generally high; but below the Chaudières they are much less elevated and often inundated. This river, like all the streams which join the St. Lawrence from the north-west, brings down an immense volume of water. The settlements do not extend more than 200 miles up the Ottawa, and the country on each side of the river above the junction of the Rideau Canal is comparatively little known: so far as it has been examined it is covered with heavy timber, and the soil is good. The Ottawa is now navigable from its junction with the St. Lawrence up to the Chaudières, a distance of about 90 miles, the rapids at Grenville having been avoided by the cut on the north bank of the river, already described.

A line drawn due north from Kingston, near the commencement of the Rideau Canal, to the Ottawa, pretty accurately separates the waters which flow southward from the margin of the table-land from those which flow into the Ottawa and the Cataraqui. This triangular district is chiefly drained by the streams which flow into the Ottawa. The land rises gently in terraces from the banks of the Ottawa and Cataraqui; the descent to both rivers is about four feet in a mile. In the eastern part of this district the greatest elevation is near to the banks of the Cataraqui, but near 76° W. long.; the high land turns more to the west and joins the table-land. This high land is only of moderate elevation. In its western part, through which the line of the Rideau Canal passes, the summit level of the canal, which is the highest point, is only 290 feet above the Ottawa at Bytown: this part contains numerous lakes, of which the Rideau and the Mississippi are the largest. Though the distance from the highest part of this range to the Ottawa is greater than the distance from the same part to the St. Lawrence, the rate of descent on each slope is the same, or nearly the same, owing to the level of the Ottawa being lower than that of the St. Lawrence. This triangular district is generally fertile.

The remainder of Upper Canada is divided into two great natural divisions by a range of high land, which, commencing on the shores of Natawasauga Bay, the southern extremity of Georgian Bay, has a general south course of 90 miles to Burlington Bay, at the western extremity of Lake Ontario. The range continues along the shore of Burlington Bay and the south shore of Ontario, at the distance of a few miles, and terminates at Queenstown on the Niagara River, above which place it forms the Great Falls. It is said that the highest point in this range is not more than 350 feet above the Huron.

The country to the East of this range, and south of the table-land already described, consists of two parts. A range of high land, which is connected (about 80° W. long.) with the range that runs from Natawasauga Bay to Lake Ontario, runs eastward along the parallel of 44° N. to the western extremity of Quinté Bay, on the north coast of

Lake Ontario, a distance of about 130 miles. Between this margin and the lake there is a level tract of country, drained by several small streams which fall into Lake Ontario: this tract is from 30 to 40 miles wide in the western part; but towards its eastern extremity, at Quinté Bay, it is not more than 8 or 10 miles wide, and the lake shore is here very bold. This tract is generally fertile, but more so in the eastern than in the western part.

The tract which lies between the range of high land just described (in 44° N. lat.), and the southern extremity of the table-land, is much more extensive, and it contains numerous rivers and lakes: it is about 180 miles long, with an average width of 50 miles. In the western part is Lake Simcoe, the greatest length of which, from north to south, is near 30 miles; and the greatest width about 25 miles: it is about 100 feet above Lake Huron. The surplus waters of the basin of Lake Simcoe pass in a very irregular direction through various smaller lakes, and enter Gloucester Bay, the south-eastern extremity of Georgian Bay, by the River Severn: the Severn contains numerous rapids. The Natawasauga, which enters Natawasauga Bay, drains the south-western angle of this district. That part of this tract which is east of the head of Lake Simcoe, is drained by streams which flow into Lake Ontario, of which the Trent is the principal. There is probably, therefore, a water-shed, higher than any other part of this tract, between Lake Simcoe and Balsam Lake, on the margin of the table-land, which may be considered, at present, as the source of the Trent. Balsam Lake is connected with Sturgeon, Pigeon, Shemong, and other lakes which lie along the southern margin of the table-land, and are said to be connected with some lakes further east, also on the margin of the table-land, from which the principal branch of the Trent, called the Ottanabee, flows. The Ottanabee enters Rice Lake, from which it is navigated upwards by small steam-boats nearly as far as the town of Peterborough. The river issues from Rice Lake, under the name of the Trent, and after a very winding course enters the Bay of Quinté. Its course, measured along its windings to Balsam Lake, must be considerably above 200 miles, though the direct distance from its mouth to the same point is not more than 70 or 80 miles. The Bay of Quinté is a long, narrow, and irregular passage, which is separated from Lake Ontario by the peninsula of Prince Edward: the neck of land which separates the Lake and the head of the Bay of Quinté is only about half a mile wide. The peninsula is indented by numerous bays and creeks. The other streams which belong to this district, such as the Moira and the Salmon, have a tolerably direct course from the southern margin of the table-land to the Bay of Quinté, in which they terminate. This tract contains a large proportion of good land, though swamps are not uncommon: it is still thickly covered with forests, but there are thriving settlements in it.

The large triangular tract to the west of the high lands which run from Natawasauga Bay to Lake Ontario, is the Plain of Upper Canada. It is surrounded by the Lakes on all sides, except in the line of the high lands just mentioned, and is at least equal to one-third of the area of England and Wales. This extensive tract contains no great elevations, and is a rich alluvial soil, covered with a great variety of forest-trees, as oak, maple, chestnut, hickory, walnut, beech, cedar, pine, and other trees. It contains a few prairies of small extent. The northern part, which terminates in the long Peninsula between the Huron and Georgian Bay, and the central part as far as 44° N. lat., are comparatively little known. The southern part is drained by two principal streams, the Ouse or Grand River, and the Thames. The Ouse rises in the high lands south of Natawasauga Bay, and takes a very irregular course, first to the south, and then to the south-east: after a course of about 130 miles, it enters Lake Erie at Sherbrook, where the Welland Canal commences. There is a bar at its mouth with eight feet of water on it, but the mouth of the river forms a tolerable harbour: the river is navigable for schooners about 25 miles. The Thames rises much more to the south than the Ouse, in a great swamp, which occupies the central part of the plain. It has first a general south course past London, and then a south-west course to its outlet in the southern part of Lake St. Clair. The whole course may be about 160 miles; and it is navigable for small vessels up to Chatham, a distance of about 20 miles. Numerous other smaller streams enter Lake Erie; and a considerable stream, called Great Bear Creek, which runs nearly parallel with the lower course of the Thames, enters the northern part of Lake St. Clair.

The districts situated in the eastern section of the province between the two principal rivers, the Ottawa and the St. Lawrence, form, with few exceptions, a level country of moderate elevation, sloping gently and regularly towards the margins of those streams. The area of these districts is as follows:—

Ottawa	.	.	.	1118
Eastern	.	.	.	1325
Bathurst	.	.	.	1700
Johnstown	.	.	.	1650

5793 square miles.

The soil is, in some situations, marshy, but it is generally rich. It consists principally of yellow loam and of clay well adapted for the growth of wheat and other grain. A substratum of blue limestone runs through the district, and is occasionally found at the surface.

The uncleared lands are covered with lofty forest-trees, which are principally white and red oak, white pine, maple, beech, birch, hickory, ash, elm, cedar, and poplar.

The whole country is intersected by numerous streams, which often

expand into lakes. They supply the means for fertilising the land, and facilitate the conveyance of goods and travellers. They also furnish numerous sites for grist and saw-mills, and for other manufacturing purposes where water-power can be employed. The advantages of this water communication for travelling are greater at present than they will be hereafter, when new roads shall be opened, and such as already exist are improved. In the more populous and improved parts of the province much has already been done in the construction of roads, but where settlements are only thinly planted, and where the intercourse between them is not frequent, such roads as have been opened in the province would hardly be considered worthy of that name in England, as they consist of little else than the removal of natural obstructions; they are besides liable, from the nature of the soil and from neglect, to become speedily obstructed, even where considerable labour and expense have been bestowed.

A principal road, continued from the Lower Province to Kingston, on Lake Ontario, passes through the various towns planted on the northern bank of the Cataraqui. The towns thus situated are Cornwall, Johnstown, Fort Wellington, and Brockville. Cornwall, which is nearly five miles west of the boundary line at St. Regis, contains about 100 wooden houses, with a Church and Court-house. Johnstown, 46 miles higher up the stream, is of nearly the same size. Fort Wellington, three miles west of Johnstown, and immediately opposite to Fort Ogdenburg, in the American territory, contains at present only about fifty houses, but appears likely to become a thriving place, from its situation at the termination of the sloop navigation on the Cataraqui from Lake Ontario, where trans-shipments of goods must be made from and to the boats which are carried up from Montreal. Brockville, twelve miles west of Fort Wellington, is neatly built, has a Church and Court-house, and contains a population of six hundred persons.

The north-eastern districts, Ottawa and Bathurst, contain several rising settlements. Hawkesbury, in Prescott County, twelve miles above Point Fortune, on the Ottawa River, contains extensive saw-mills. Bytown, in Carleton County, is sixty miles west of Hawkesbury, and a short distance below the falls of the Chaudière. This town stands upon an eminence at the termination of the Rideau Canal. It is laid out with neatness and regularity, and is fast rising into consequence.

At the Falls of the Chaudière the two provinces have been united by a bridge, or succession of bridges, connecting with each other and with the opposite banks of the river, the numerous islands contained in this part of the river. One principal arch has a span of 200 feet, two arches have each 70 feet span, and eight others are each of 60 feet span.

Between the Ottawa and Cataraqui are Richmond, Lanark, and Perth, all thriving villages which were first established in 1815 by Scottish emigrants and disbanded soldiers, and which, being seated in the midst

of a fertile tract of country, are fast increasing in population. In the year 1814 this part of the province consisted of an almost impenetrable forest, but roads were then opened by the government, and the great capabilities of the soil speedily attracted settlers. The proximity of the Rideau Canal will prove an additional advantage to this district, by offering a ready and cheap means of conveying its produce to the principal towns of both provinces.

The area of Midland district is 3492 square miles. The town of Kingston, in this district, is seated at the north-eastern extremity of Lake Ontario, where its waters enter the Cataraqui, in $44^{\circ} 15' N.$ lat. It was founded in 1783, and although not the capital, or seat of government, is at present the most important and populous town in the province. Owing to its favourable position it is the entrepôt of the trade carried on between the Lower Province and the parts to the westward. The streets intersect each other at right angles, and comprise about 700 houses, many of which are well-built stone edifices. It also contains several commodious warehouses. The population of Kingston now amounts to nearly 6000 persons. The trade from the westward is carried on in vessels of from 100 to 200 tons burthen: flat-bottomed boats, or *bateaux*, are used for conveying goods through the Cataraqui from the eastward.

The opening of the Rideau Canal will, no doubt, cause some alteration in the transit trade of Kingston. It will no longer be necessary to make trans-shipments of goods or produce at this port. The steam-vessels which now ply between the towns on Lake Ontario will go forward at least as far as the entrance to the Grenville Canal on the Ottawa, within 64 miles of Montreal, as already stated; the increased traffic which it is reasonable to hope will be thus induced, cannot fail, however, to be advantageous in many ways to Kingston. This town possesses a convenient and sheltered harbour, with good anchoring-ground in 18 feet water close to the shore. The entrance to this harbour is defended by batteries placed on opposite points of land. There is a considerable Dock-yard here, in which vessels of war were built during the last American war, to oppose the naval force of the United States on Lake Ontario.

Grand Isle, called also Wolfe Island, already mentioned as occupying or dividing the entrance of the Cataraqui, forms one of the townships of Frontenac County.

Proceeding from Kingston along the northern shore of Lake Ontario for 18 miles westward, we arrive at Bath, opposite to which is Amherst Island, a township of Lennox and Addington County. At a short distance from the west is the peninsula which forms Prince Edward's County: between it and the main land is the Bay of Quinté, the length of which, if the windings are included, is nearly 50 miles. This inlet is so completely land-locked as to prove a secure retreat from the heavy

gales by which the American lakes are often visited. The Bay of Quinté receives the waters of several rivers. The largest of these are the Napane, Salmon, Moira, and Trent Rivers.

Several salt springs have been discovered in the township of Perry, on the Trent River, and the manufacture of salt is prosecuted, but the produce is said to be not of the best quality.

Newcastle, the central district of the province, extends along the north shore of Lake Ontario, about 65 miles westward from the head of the Bay of Quinté. The area of this district is 3024 square miles: it is well watered. The basin of the Trent is contained within this district. The Otanabee, as the Trent is generally called above its influx into Rice Lake, contains on its west bank a thriving settlement, named Peterborough, in the township of Monaghan: this place has above 2000 inhabitants, many of whom emigrated from the United Kingdom in 1825, under the care of government. From Balsam Lake, which is in the north-west angle of the district, a short portage connects the navigation with the River Talbot, which falls into Lake Simcoe. An almost continuous water-communication is thus formed through the interior of the province, between the Bay of Quinté and the Huron Lake.

The soil in the townships bordering on Lake Ontario is a rich black earth. Farther north, towards Rice Lake, is a sandy plain of some extent, but, generally speaking, the land in this district is fertile, and yields abundant crops of the various kinds of grain which are cultivated in England, as well as of maize.

The villages of Cobourg, Port Hope, and Darlington, stand on the shore of Lake Ontario. Much of the land contiguous to these settlements has been brought under cultivation: a few years ago this tract was a wilderness. The district contained, in 1830, a population of 14,850 souls, who possessed 1665 horses, and 10,853 head of horned cattle.

The area of Home District is 3672 square miles: it contains the town of York, or Toronto, the capital of the province, which is in 43° 40' N. lat. It is built on the north side of an excellent harbour, the form of which is nearly circular, with a diameter of one mile and a half. This harbour is formed by a narrow peninsula, six miles long, and varying in its breadth from sixty yards to nearly a mile. This narrow slip is principally a bank of sand, and it is so low that it does not obstruct the view of the lake from the town. On the extremity of this peninsula, which is called Gibraltar Point, a block-house has been erected for the protection of the harbour, and also a lighthouse.

In the spring of 1794, when this site was fixed upon for building the capital of the province, the spot contained a solitary Indian wigwam, and was covered by a dense forest. In six years from that time the town had assumed a respectable appearance. York is regularly laid out with streets crossing each other at right angles. The number of houses is now 450, and its population amounts to 4000. Several of the houses

more recently built are of brick and stone; those of earlier date are of wood. The town contains a government-house, a building where the provincial parliament holds its sittings, a church, court-house, gaol, and numerous storehouses for government purposes. There is a college at York, in which the higher branches of knowledge are taught.

York was captured by the Americans in April 1813. They kept possession of the place only for a few days, but they carried off a great part of such public property as was moveable, and burnt the government-house and other public buildings.

The land in the neighbouring townships is in a high state of cultivation; and the market of York is always abundantly supplied with provisions.

A good road runs from the rear of the town to Gwillimbury, a village thirty-two miles to the northward, and forward five miles further to Cook's Bay, from which there is a communication to Georgian Bay by Lake Simcoe. This line of road bears the name of Yonge Street. Many settlements have been formed on it, the land being fertile on each side of the road. Another road to the same point has been formed, by which the distance has been shortened. This road commences from Kempenfelt Bay, on Lake Simcoe, and is carried to Penetanguishene Harbour, which opens into Gloucester Bay. A town has been laid out at Penetanguishene, where a naval depot and custom-house have been established. The distance by this route from York to Lake Huron is only 88 miles, while the usual course, through Lakes Erie and St. Clair, is 700 miles.

A road called Dundas Street has been opened from York to Amherstburg, on Detroit River, at the south-western extremity of the province. The distance between the two towns is 250 miles, in the course of which the road passes through several thriving settlements; the principal of which are Trafalgar, Dundas, at the head of Burlington Bay, which forms the western extremity of Lake Ontario; Burford and Oxford, in Oxford County; Chatham, on the River Thames, in the county of Kent; and Sandwich, in the county of Essex.

Gore district has an area of 1836 square miles. The soil is generally alluvial, consisting of a deep rich vegetable mould, under which is a middle stratum of either black or yellow loam, with a substratum of grey or blue clay. The district is well watered and abundantly wooded, and in some places there are extensive natural meadows. The Ouse or Grand River, and its numerous branches, flow through this and the adjoining district of Niagara into Lake Erie. On one of the branches of this river, called the Speed, and about 100 miles from its mouth, the Canada Company have founded the thriving town of Guelph, to which access may be had by good roads from York, and from Goderich, another of the Company's settlements on the eastern shore of Lake Huron. Guelph, although founded in 1827, already contains 700 or 800

inhabitants. The Canada Company have another settlement on the banks of the Grand River in this district, the village of Galt, which is in the township of Dumfries, Halton County, and seventeen miles from Guelph.

Niagara district has an area of 1080 square miles. The town of Niagara, or Fort George, once called Newark, occupies the west bank of the River Niagara at its entrance into Lake Ontario. During the last American war (December, 1813) the town was taken by a party of the New York militia, and destroyed by fire. It has, however, been rapidly rebuilt, and is again a thriving place; the population amounts to 1500 persons. The town possesses a good harbour, and carries on a brisk trade with the different ports on Lake Ontario, as well as with more distant parts of the province. Before York was built, Niagara was the seat of government for the province.

Seven miles from Niagara, and at the base of the heights of Queenstown, is the village of Queenstown. This place contains about 600 inhabitants. The surrounding lands are cultivated. The trade which Queenstown has enjoyed, from being at the extremity of the portage below the Falls of Niagara, will now be transferred to the Welland Canal. At the southern extremity of the portage, ten miles from Queenstown, and above the Falls, is the village of Chippewa, which occupies both banks of the Welland River, near to its mouth, which forms the eastern entrance to the Welland Canal. A few miles below this village, and close to the margin of the Niagara, are some springs which give out an abundance of inflammable gas. The heat of the water in these springs is said to be at the boiling point.

From Chippewa to Fort Erie, at the head of the Niagara, the distance is sixteen miles, by a good road cut along the bank of the river. This fort is built on rising ground, and commands a beautiful prospect, over a fine and well-cultivated country. The navigation on Lake Erie is by steam-boats, between Fort Erie at its eastern, and Amherstburg at its western extremity.

The district of Niagara has a favourable geographical position, being bounded on three sides by navigable waters, and traversed by the Welland Canal. The soil is good, and the climate agreeable: it produces abundance of fine fruits. It has further the commercial advantage of contiguity to the flourishing State of New York.

London District, the largest in the province, has been only partially surveyed. In addition to its three counties, and the tract or block of land on the shores of Lake Huron, possessed by the Incorporated Canada Company, and which together comprise an area of 3204 square miles, the district contains territory of great extent, and more than equal to the surveyed portion. The unsurveyed tract is in the northern division, having the Huron Lake and Georgian Bay on the north and west, and Home District on the east. The most settled portions of the

District are the counties of Norfolk and Middlesex, which border on the north shore of Lake Erie. A road has been opened which skirts the shores of the lake, and is carried all the way from Fort Erie to Amherstburg. London is generally a low and level country. Near the eastern boundary, and on the shore of Lake Erie, is the village of Dover, and ten miles west of this is Charlotteville, both inconsiderable places: the latter has an iron-work, for which ore is found in the vicinity.

North Foreland, or Long Point, is a narrow peninsula, which stretches eastward for nearly twenty miles into Lake Erie. The Bay thus formed is called Long Point Bay. Thirty-six miles westward of this bay is the small settlement of Stirling, and seven miles further in the same direction is Port Talbot, a settlement formed by Colonel Talbot, who, in 1802, obtained a grant from the government of 100,000 acres of land, on condition of establishing there a certain number of settlers; a condition with which he has complied. This grant comprises a large portion of fertile land, and the settlement is in a very flourishing condition. The inhabitants are principally emigrants from Ireland, with several others from the Highlands of Scotland. One of the conditions stipulated by Colonel Talbot with the settlers upon his grant, was that each should open a road in front of his farm, and along the margin of the lake.

The block of land purchased by the Canada Company contains about a million of acres. In shape it approaches a triangle, the base of which extends about sixty miles along the south-east and east shore of Lake Huron. The tract has been surveyed, and is divided into twenty townships: two roads, about 100 miles in length, have been cut through it. The surface is generally level, and the soil consists for the most part of a deep rich black loam, with a sub-soil of clay intermixed with sand. The soil is of easy cultivation, and very productive. There are several prairies in the district, which also contains abundance of fine timber. A considerable branch of the River Thames passes through the district, which also contains the River aux Sables. The Maitland River also flows into it from the north, and discharges itself into Lake Huron through a natural harbour, on the shore of which the town of Goderich has been built. This harbour is capable of receiving vessels of 200 tons burthen. This town is becoming a thriving place, and probably contains above 1000 inhabitants. It possesses good sites for mills on the Maitland River, and is connected by roads with the older-settled counties in the district, as well as with the principal settlements in the adjoining districts.

The area of Western District is 1928 square miles. The settlement of this district was begun while Canada was in the possession of France; and some of the present inhabitants are of French extraction. To the westward of Port Talbot, and at the distance of thirty-five miles, is Point aux Pins, or Languard Point, a projection of land which nearly

encloses a sheet of water, measuring eight square miles, and from which a communication is kept up with the lake by a narrow opening. Fifty-two miles south-west of this bay is Point Pelée, or South Foreland, which has a tolerably sheltered anchorage-ground on its west side, called Pigeon Bay. Thirty miles to the westward of Point Pelée is the mouth of the River Detroit, on the eastern bank of which, and three miles from the entrance to the river, is the town of Amherstburg, one of the most important towns in the province, and containing a population of 1200 souls. Amherstburg has a safe and convenient harbour, and, being a frontier town, is fortified. The military works and docks were destroyed, together with all the stores, during the last American war; but the town has since been again put in a state of defence. Amherstburg is 785 miles above Quebec, following the line of water-communication, and 1100 miles from the mouth of the St. Lawrence. The soil on the bank of the Detroit is highly fertile, and the climate is favourable to the growth of a variety of fruits, which are here raised in great abundance. The grapes, peaches, nectarines, plums, pears, and apples of the district are excellent. All kinds of grain grow here in perfection.

Higher up the Detroit River, and fourteen miles from Amherstburg, is the small town of Sandwich, which contains 150 houses. An active communication is kept up between the English and American settlements on the opposite sides of the stream, and particularly in winter, when its surface is frozen. A steam-boat plies between Sandwich and Maitland, on Lake Huron.

The province contains abundance of iron ore and of limestone, but coal has not yet been discovered: wood is used for fuel, and is still plentiful. Some scarce minerals have been discovered in Upper Canada. Petalite has been found near York; beryl is found at the Lake of the Woods; axinite in Ottawa District; amethyst has been discovered on Lakes Huron and Superior; strontian on Lakes Erie and Ontario; cornelian, agate, and fluor spar on Lake Superior. Marble is common. Carbonate of iron (*plumbago*), ores of antimony, copper, and lead are also found. The northern shore of Lake Ontario contains several salt springs, which are likely to be made very productive. Immense beds of gypsum of the purest quality are worked on the north shore of Lake Erie: the principal of these is in Dumfries Township, Halton County, Gore District, whence 300 tons were obtained in 1829. Large quantities of gypsum are used for agricultural purposes.

The population of the entire province, according to the census taken in the different districts in 1830, was as follows:—

	Males.	Females.	Total.
Ottawa	2,128	1,705	3,833
Eastern	10,168	9,587	19,755
Bathurst	8,633	7,382	16,315
Johnstown	10,694	9,713	20,407
Midland	17,960	16,238	34,198
Newcastle	8,045	6,805	14,850
Home	15,264	13,301	28,565
Gore	10,671	10,274	20,945
Niagara	10,626	10,290	20,916
London	12,077	10,726	22,803
Western	4,915	4,373	9,288
	111,181	100,394	211,575

In 1834 the total population was 321,903.

The number of acres of land, mostly of excellent quality, still uncultivated in townships that have been surveyed, exceeds three millions and a quarter, one half of which are ungranted. Immense tracts still remain to be explored and inhabited. One district alone north of the St. Lawrence, sold to the Canada Company, bounded on the west by Lake Huron, and on the east by surveyed land in Home District, is computed to contain three millions of acres. The number of grants of land made in 1830 amounted to 677, comprising 271,656 acres.

The chief occupation of the inhabitants is agriculture. Domestic manufactures of woollens for common use are general as in other parts of North America. There are also several distilleries, two paper-mills, considerable iron-work at Marmora, in Midland District, and several other iron-works in London District. There are above 475 flour-mills and 670 saw-mills. The former are supplied, not only with the grain of home production, but with the wheat of the United States, which is admitted duty free.

The number of horses and horned cattle in Upper Canada, as stated in the assessment-returns of the clerks of the peace, in 1830 were—

District.	Horses.	Horned Cattle.
Ottawa	386	1,954
Eastern	3,940	11,585
Bathurst	741	8,996
Johnstown	2,668	13,109
Midland	6,048	22,311
Newcastle	1,665	10,853
Home	3,530	17,693
Gore	2,935	15,874
Niagara	4,900	16,451
London	2,722	19,096
Western	1,754	7,111
	31,289	145,033

In 1833 the horses and horned cattle were respectively 40,304 and 172,674.

The principal part of the imports of Upper Canada are passed through the custom-houses of the Lower Province, and their amount cannot be stated. They consist of woollen, linen, and cotton, manufactured goods, hardwares, wrought and unwrought leather, and almost every article of British manufacture. Many articles are likewise brought in from the United States. The exports consist of wheat, flour, lumber, pot and pearl ashes, and pork. About one-third of the customs duties collected at Quebec have hitherto been paid over to the government of Upper Canada, as being levied upon goods imported for its consumption. The duties collected upon goods brought from the United States amount to about 500 % more; and for securing this revenue twenty-three custom-house establishments are formed in the principal settlements of the province.

Perfect toleration is extended to all religious sects in Upper Canada. The Roman Catholic inhabitants amount to about 22,000, for whose religious instruction a bishop and twelve priests are paid by the government. An equal number of presbyterian ministers are similarly supported. Methodists are very numerous, the number of their churches amounting to sixty-six: they derive no support from government. The authority of the Bishop of Quebec extends to this province: about thirty-seven clergymen of the Church of England are employed, at salaries of about 200*l.* per annum each. They are all missionaries from the London "Society for propagating the Gospel in Foreign Parts," and are paid by that body, who are repaid the amount by the home-government. The province has properly no ecclesiastical divisions, but the clergy have resident stations assigned to them by the bishop. In addition to the officiating ministers above mentioned, there are two archdeacons, of York and Kingston, whose salaries are paid by the government.

Taxes for local purposes are levied, and expended under authority of the magistrates.

District schools are established throughout the province, and have hitherto been supported by the provincial government, which has in some years disbursed above 8000*l.* in aid of education.

The militia of the province is on a very efficient footing, and amounted in 1830, including commissioned and non-commissioned officers, to 33,385 men; in 1834 it was near 40,000.

Accounts are kept in Halifax currency, the relative value of which to sterling money is as 10 to 9. The coins current in the province are English, French, and Spanish, of gold and silver, and Portuguese of gold only. There is no legal copper coinage; but public convenience has caused many copper tokens to be struck, and these, although of less value than a halfpenny, pass current at that amount. An English shilling passes for 1*s.* 2*d.* currency; a crown for 5*s.* 9*d.*; French crowns at 5*s.* 6*d.*; and Spanish and American dollars at 5*s.* each.

old coins are usually taken by weight; those of England, America, and Portugal at 89s., and those of France and Spain at 88s. currency pound troy. The weights and measures used are those which are commonly employed in England before the alteration to the imperial standard.

LOWER CANADA.

Lower Canada comprehends the country on the north bank of the St. Lawrence, east of the Ottawa River, to the mouth of the St. Lawrence; that is to say, to the River St. John,* which enters the St. Lawrence on the north bank, opposite the west end of the Island of Anticosti; and also a small tract on the north bank of the St. Lawrence, which lies west of the mouth of the Ottawa, and between that river and the Cataract. The northern boundary of the government of Quebec is determined in 1763, to run from the head of the said River St. John through the large Lake St. John to the south side of Lake Nipissing, and the Ottawa is now the boundary on the west. On the south of the St. Lawrence it comprises an extensive tract, which will be particularly described. From the junction of the Ottawa to its mouth the magnificent river of St. Lawrence is comprised within the limits of Lower Canada. Below Quebec, where it is not quite a mile across, it begins to widen; and below the large Island of Orleans, the south point of which is five miles from Quebec, it becomes a spacious æstuary, widening as it approaches its mouth. Between Orleans and the mouth of the Saguenay, there are numerous small islands in the river. The area of Lower Canada is sometimes stated at above 200,000 square miles. The area of the part south of the river, including the disputed territory, probably does not exceed 35,000 square miles; nor can the settled portion on the north bank of the river much exceed 6000 or 8000 square miles.

From the mouth of the Ottawa the land on the left bank of the St. Lawrence is of moderate elevation as far as Richelieu Rapids, about fifty miles below Trois Rivières. From this point the banks rise higher as we descend the river: the height of the platform on the Citadel of Quebec, which stands on Cape Diamond, is 333 feet above the level of the St. Lawrence. At Cape Torment, below Quebec, the banks are still higher. This high land continues from Cape Torment along the left bank of the river, with a bold front, which is only broken by short streams, to the valley of the Saguenay River. About twenty miles below the mouth of the Saguenay the banks somewhat subside, and at Port-au-Fort, about forty miles below the Saguenay, they are of moderate elevation; but still lower down the banks of the river rise again, and form a continuous high coast with that of Labrador.

* But by 6 Geo. IV. c. 59, the eastern boundary was extended to Anse au Sablon.

The high lands, which extend into the interior from Cape and separate the basin of the Saguenay from the rivers to the form into two natural divisions this part of Canada which is no St. Lawrence. A range of high lands is indicated in the running from the Falls of Grenville, on the Ottawa, in a general east direction, and parallel to the banks of the St. Lawrence. high lands approach Quebec, they come nearer to the river, and around that town, on the east, north, and west, a hilly tract. of high lands is apparently only the southern slope of a high irregular table-land, which lies to the north of it, and is full of streams: this slope is broken by numerous rivers which rise to of it and descend to the St. Lawrence, through a country which of terraces decreasing in elevation towards the river. This relatively level tract between the high lands and the St. Lawrence probably thirty miles wide in the widest part: it is said to contain considerable proportion of rich soil, and numerous settlements made in it.

The largest of the rivers which traverse the range of high lands described is the St. Maurice: its source is unknown. Its branches unite in the parallel of 48° N. lat., from which point it flows with a winding general S.S.E. course for about 150 miles to the mouth of the stream, to Trois Rivières, where it enters the St. Lawrence. The river contains numerous rapids, but it is navigable to about 80 miles from its mouth, though it is necessary to pass the rapids by portages. The Batiscan, another considerable river, enters the St. Lawrence about sixteen miles below Trois Rivières far in the interior. Indeed the maps represent the St. Lawrence and the Batiscan as connected with one another, and the Batiscan as one of the outlets of the great Lake of St. John. The whole of the country north of the high lands, which extend from Grenville to the neighbourhood of Quebec, is apparently covered with lakes, and intersected by numerous streams.

Little is known of the interior of the country below Cape Quebec. The banks of the river are dreary and uninviting. The general feature of this district is the valley of the Saguenay. The source of the Saguenay is unknown, but it must be in that tract of high lands which forms the boundary between the basin of the St. Lawrence and Hudson's Bay. The Saguenay is a large stream when it enters the Lake of St. John: this lake is about thirty miles long from north to south, and measures about twenty-five miles in its greatest breadth from east to west. It issues from the lake by two branches, called respectively Grande and Petite Décharge, which unite after a course of about 10 miles. From their junction the river flows in a broad deep channel on an E.S.E. course, for about seventy miles, to Tadousac, where it enters the St. Lawrence. The banks of the Saguenay are rocky

abruptly to a height varying from 170 to 340 yards above the stream, according to Bouchette; but these numbers may be exaggerated. The tide ascends to the junction of the two Décharges, and the river is navigable for large vessels to a considerable distance. The Saguenay is said to have a general breadth of two and a half to three miles, but at its mouth the width is contracted to one mile: at the distance of sixty or seventy miles from the St. Lawrence it is still fifty or sixty fathoms deep. An amazing volume of water is brought down by this deep and rapid river, which is the largest of all the tributaries of the St. Lawrence.

The description of that portion of Canada which lies South of the St. Lawrence is rendered somewhat difficult by the circumstance of its containing that tract of country included in the upper basin of the St. John, which is claimed by Great Britain, and by the United States on behalf of the State of Maine. It will, however, be most convenient to describe this part of Canada as comprising the disputed territory, inasmuch as the late Report of the Commissioners on the North American Boundary has shown that the disputed territory is bounded on the south by a well-defined mountain-range from the head of the Connecticut to the Bay of Chaleurs.

The Mountains of Vermont divide into two branches a little north of 44° N. lat. The southern branch has a general north-east course to the parallel of 45°. The parallel of 45° is the boundary-line between Lower Canada and the United States, from Lake St. Francis, till it strikes the Connecticut River about twenty miles south of its source. This is also the point where the southern branch first strikes the parallel of 45° in its north-east course. From this point the mountain-range continues its course to a point where the parallel of 46° is intersected by the meridian of 70°, and within these limits it forms the water-shed between the Chaudière, which flows into the St. Lawrence, and the Connecticut, the Androscoggin, the Kennebec, and the most western source of the Penobscot, which four last-mentioned rivers flow into the Atlantic. From the point where the southern branch strikes the 45th parallel to a point between the sources of the Du Loup, a branch of the Chaudière, and the west branch of the Penobscot (which is a little west of the intersection of the parallel of 45° with the meridian of 70°), the boundary-line between Lower Canada and the United States is not disputed. From the point between the sources of the Du Loup and the most western source of the Penobscot the mountain-range continues in a course, somewhat more to the east, to the banks of the St. John, in 47° N. lat.; and within these limits it forms the high lands which the British Commissioners consider to be the high lands mentioned in the Treaty of 1783 as the boundary, in this part, between Lower Canada and the United States. The mountain-range continues in the same general direction east of the St. John, and it

terminates on the Bay of Chaleurs, between the Ristigouche and Nipisighit Rivers. The whole length of the mountain-range from the point above mentioned, as lying between the sources of the Du Loup and the most western source of the Penobscot, to the Bay of Chaleurs, is about 250 miles. This mountain-range occupies a very considerable breadth; but as it is in fact only the most elevated part of an extensive tract of high land, it is not easy to fix any determinate limits to it on the north and south. From the most western source of the Penobscot to $69^{\circ} 40'$ W. long. this mountain-range is bold and continuous; and it is supposed to have an average height of 2000 feet from the meridian of $69^{\circ} 40'$ westward to the sources of the Connecticut. But east of this meridian ($69^{\circ} 40'$) the mountain-peaks are separated by wide gaps, though the connecting portions of high land are still of considerable elevation. In this part of its course the range contains the south-eastern sources of the St. John, and the sources of its tributary, the Alaguash. When the range has reached the meridian of $68^{\circ} 32'$, it has a subordinate character, and between this meridian and the banks of the St. John it is at least twice completely intersected by the Roostuck, or Aroostuck, a branch of the St. John. Such is the complicated system of drainage in this part of the range, that the real water-shed which separates the branches of the Roostuck from the sources of the eastern branches of the Penobscot must be looked for many miles to the south of the high lands which the Commissioners consider to form "a part of the axis of maximum elevation." The mountain-range strikes the St. John opposite to the mouth of the Tobique. The south-eastern source of the St. John is at an elevation of 1294 feet above the level of high-tide in the Bay of Chaleurs, and a summit near this source is 2088 feet high. Another summit in this range is 1760 feet high; and there are several others above 1000 feet. From the mouth of the Tobique the high land again rises rapidly, and presents an almost continuous elevation, interrupted by a few slight depressions, to the Bay of Chaleurs. This mountain-region between the St. John and the Bay of Chaleurs is drained on the north-east side by some of the branches of the Ristigouche, and on the south-east side by those of the Nipisighit. The western part is drained by the Tobique, which rises in Nictor, or Nictau Lake, about half-way between the Bay of Chaleurs and the Great Falls of the St. John, at an elevation of 786 feet above high tide in the Bay of Chaleurs. The highest part of the range seems to lie about the upper branches of the Tobique and the Nipisighit, where several summits are marked as having respectively the following elevations:—1846, 2170, 2100, 1846, and 1933 feet:

So much of this mountain-range as extends from the most western source of the Penobscot to a point on the St. John opposite the mouth of the Tobique, forms the southern boundary of the disputed territory. The western part of this range presents a clearly defined natural boundary, and separates the streams which belong to the upper basin of the

St. John from the numerous upper branches of the Penobscot. As the Roostuck intersects the eastern part of this range, it belongs both to the upper and to the lower basin of the St. John. But the real watershed between the basin of the Penobscot and of the St. John, in this eastern part of the mountain range, lies further to the south, as already shown, and is apparently formed by a range of high land, (probably the real continuation of the high range further west) to which Mars Hill belongs. Mars Hill is now become a notorious point, as being the first great elevation which is struck by the meridian line of $67^{\circ} 53'$, (part of the boundary between New Brunswick and the State of Maine) drawn from the source of the Chiputnatcook. "A large portion of the disputed territory may be seen from the summit of Mars Hill, which is nearly 1700 feet above the level of the sea. On the top of that hill a space has been cleared by cutting down the trees, and a framed stage has been erected, about twenty feet in height, for the purpose of obtaining a view of the distant country. The character of the country may be well discerned and understood from this insulated hill. It presents to the eye one mass of dark and gloomy forest to the utmost limits of sight, covering by its umbrageous mantle the principal rivers, minor streams, and scanty evidences of the habitation of man. The hill itself is also rarely distinguishable from any part of the surrounding territory: and it is only by the increased difficulty of the ascent that the traveller becomes aware of his approach to the summit." (Commissioners' Report, Appendix.) From this statement it seems probable that the high land of which Mars Hill is a prominent point, ought to be considered as the southern boundary of the eastern portion of the upper St. John's basin; and that the portion of the mountain range which is intersected by the Roostuck is not the continuation of the axis of the mountain range, but a tract of high land comprised within the basin of the upper St. John.

Great errors have prevailed as to the elevation of the upper basin of St. John. Darby, in his useful work on America, (p. 197) conjectures it to be 1000 feet above the sea, which is true of some of the higher points of the upper basin, but is much above its general level. This error appears to have originated in Bouchette's section of the country from the Monument at the source of the Chiputnatcook along the meridian line to the Great Waggansis, a stream which flows into the Ristigouche (Commissioners' Report, p. 49). Bouchette makes the country rise all the way from the Monument to the Waggansis, to which he gives an elevation of 2065 feet; and he makes the elevation of the country, at the point where the meridian line first strikes the St. John a little above the Great Falls, 1850 feet, whereas it is only 300 feet. These monstrous errors in the physical geography of this part are thus shown and corrected in the Commissioners' Report (p. 49):—

	Bouchette's Section. feet.	Commissioners' Section. feet.
The Monument	850	450
Park's	1160	770
Meduxnekeag River . .	1000	270
Presqu'île River . . .	1180	180
Land south of Mars Hill .	1470	500
Goosequick	1350	200
River des Chutes . . .	1385	200
Roostuck River	1470	180
River St. John	1850	300
Great Waggansis River .	2065	400

The elevation of Lake Woolastaguagam, which is not far from the sources of the south-east branch of the St. John, is 1049 feet. At the junction of this branch of the St. John and of the Mittaywaguam, the elevation is 927 feet; and at the confluence of the Alaguash and the St. John, the elevation is only 520 feet. Though the upper basin of the St. John has an irregular surface, its general average is much lower than it has been supposed to be.

It remains to describe the Northern branch of the two into which the mountains of Vermont divide about 44° N. lat., which is here given in the words of the Commissioners (Report, p. 41):

"The *northern* branch of the main trunk above mentioned leaves the southern branch which we have just described in about 44° N. lat., and pursuing a more northerly course round the heads of the River St. Francis, (which flows into the St. Lawrence), passes to the north of the Lake St. Francis (which belongs to the basin of the St. Francis River), and crosses the Chaudière (which also flows into the St. Lawrence) in the parallel of Lake Etchemin, $46^{\circ} 25'$ N. lat. From thence running west and north of the last mentioned lake, it may be said by its occasional peaks to hold a course nearly parallel to the River St. Lawrence, at a mean distance of about twenty miles, until it reaches the district of Gaspé." Gaspé forms the north-east angle of Lower Canada, which is included between the outlet of the St. Lawrence and the Bay of Chaleurs.

These high lands, which extend from Lake Etchemin, along the east side of the St. Lawrence to the district of Gaspé, form the northern boundary of the basin of the St. John, and are the high lands which the United States consider to be those mentioned in the Treaty of 1783. We shall give the description of these high lands from the Commissioners' Report (p. 41). These high lands consist of a tract of country of moderate elevation, not exceeding a few hundred feet above the sea. The elevation of the source of the Metis, about 68° W. long., is certainly not more than 400 feet above the entrance of the Metis river

into the St. Lawrence; and the elevation of Lake Temiscuata, about $68^{\circ} 50'$ W. long., from which the Madawaska flows into the St. John, is only 60 feet higher than the point where the meridian line from the Monument strikes the St. John. There is a number of peaks on these high lands, lying in nearly the same magnetic direction, but separated from one another by wide intervals, occasionally of twenty or thirty miles, of marshy tabular lands, in which the heads of the streams, flowing in contrary directions (that is, into the River St. Lawrence and into the River St. John), frequently overlap each other, so that the streams which flow south (into the St. John), in the greater number of cases, rise far to the north of the heads of the streams which flow north into the St. Lawrence. (Commissioners' Report, p. 41.) Thus the north branch of the Mittaywaguam, a large tributary to the St. John, rises north of some of the most elevated of these peaks. Twenty-four miles further east occurs another group of peaks, north of which rises the Black River, a branch of the St. John, and in the same swamp with the Ouelle and Du Loup (another stream of that name) which flow into the St. Lawrence. Forty miles further east is another set of very elevated and almost contiguous peaks, which are passed in going by the portage from Lake Temiscuata to the banks of the St. Lawrence: the sources of the St. Francis, which falls into the St. John, are north of these peaks; and the sources of the Rivière Verte and Rivière Trois Pistoles, both of which flow into the St. Lawrence, are south of the sources of the St. Francis and of the peaks last mentioned. Farther north-east, the sources of the Rimousky, which flows into the St. Lawrence, are almost joined to those of the Green River, which joins the St. John in $47^{\circ} 17'$ N. lat. The sources of the Metis or Beaver river, which runs into Lake Metis, are near twenty miles south-east of the peaks, which form a part of those above mentioned, as occurring at wide intervals. The Metis is the river which is struck by the due-north line in its prolongation from the source of the Chiputnaticook, and it is considered by the Americans to be a river which belongs to the high lands mentioned in the Treaty of 1783. The intersection of the due-north line with this river is considered by the Americans to be the point from which the boundary line must take its western course along the high lands, after having here reached its northern termination. The general character of the high lands which line the banks of the St. Lawrence from Lake Etchemin to the source of the Metis, will be sufficiently clear from the above description. They consist of a broad tract, elevated several hundred feet above the sea, containing numerous peaks at great intervals from one another; and some of them of considerable elevation. Like similar tracts of high lands in many other countries, they contain swamps on the high levels, and there is no continuous range forming a water-shed, but the water-shed is a very irregular line, sometimes determined by the same swamp, and in other

cases to be determined by ascertaining the exact basin of all these interlocking tributaries of the St. Lawrence and of the St. John.

The high lands continue eastward of the Metis into the Peninsula of Gaspé, and probably at no great elevation; but in the present state of our knowledge it is not possible to give any exact description of this peninsula. According to some accounts the central part is a table-land sloping northwards to the St. Lawrence, and southward to the Bay of Chaleurs. The most eastern point, Cape Gaspé, is in $64^{\circ} 12' W.$ long., and forms the northern entrance of Gaspé Bay.

The Southern and Northern boundaries of the upper basin of the St. John have now been described. It remains to describe briefly the Eastern and Western boundaries of the same basin.

After crossing the St. John, at that point where the meridian of $67^{\circ} 53'$ strikes that river, the country is generally flat and swampy. A moderate ridge divides the waters of Falls River from those of Grand River: both of these are small streams which enter the St. John on the left bank, and above the Great Falls. North of Grand River there is another ridge, but not of any considerable extent, and north of this ridge there is a large swamp, in which the Waggansis, a branch of the Ristigouche, rises. The country is still a succession of swamps and low ridges, from the Waggansis further north to the Quotawamkedgwick, another branch of the Ristigouche. "After the ascent of the hill on the north bank of this last stream, the country descends gently the whole way to the point where the exploratory north line (the meridian line $67^{\circ} 53'$) strikes the stream which runs into Lake Metis." The elevation of this stream, as above shown, is not more than 400 feet above St. Lawrence. The point where the meridian line leaves the St. J is only 300 feet above the sea-level. Thus it appears that there is very high land along the eastern boundary of this upper basin; this is also the case with its western boundary.

The Western boundary of the upper basin is formed by a tract of land, which begins to run southwards (in about $70^{\circ} 20' W.$ long.) the Northern branch already described, and passes between Lake Echemin on the west and the Mittaywaguam, an upper branch of St. John, on the east. This tract of high land meets the Southern branch near $46^{\circ} N.$ lat. The elevation of Lake Etchemin is 957 feet, and the country at the junction of the Mittaywaguam and the St. J is, as above stated, 927 feet; but "over no part of the country which traversed from the St John to Lake Etchemin, does the elevation exceed fifty feet, nor is there any visible elevation at any point of its course" (Commissioners' Report, p. 45). The North branch of the Moulin above described passes to the west of Lake Etchemin. It appears that the watershed between the upper branches of the St. John the Etchemin and Chaudière, which flow into the St. Lawrence,

elevated tract about 1000 feet above the sea, from which the streams flow by a gentle course to the St. John on the one side, and the St. Lawrence on the other. Along this elevated tract one of the American surveyors protracted a line of hills on his map (Commissioners' Report, p. 44, 45), which the Commissioners have shown not to exist. The Americans seem to have considered the existence of such hills as favourable to their claim; and the British Commissioners considering "the verification or disproof of this ridge a matter of vital importance in the controversy about the boundary; were very careful to examine that part of the country," &c.

The Etchemin enters the St. Lawrence nearly opposite to Quebec: the high land which separates its lower course from the country to the east of it, together with that high land which separates the upper basin of the St. John from those of the Etchemin and Chaudière, may be considered as dividing the part of Lower Canada to the east which has already been described, from that to the west, which remains to be described. "On the right bank of the St. Lawrence there is, for some distance below Quebec, an alluvial border of land, part of the ancient bed of the stream, in many places twenty miles broad, bounded by a more elevated country" (Commissioners' Report, p. 38). This more elevated country is that already described as the high lands of the Americans which form the northern boundary of the upper basin of the St. John.

Lower Canada, south of the St. Lawrence, thus consists of three natural divisions,—the country below Quebec along the St. Lawrence; the upper basin of the St. John; and the country to the west of these two divisions, which is drained by rivers that flow into the St. Lawrence. The Peninsula of Gaspé may perhaps be considered as a fourth division.

From the point where the parallel of 45° N. lat. leaves Lake St. Francis, nearly to the mouth of the Chaudière, the country along the St. Lawrence is of moderate elevation, and in some parts is low and swampy, especially along that expanse of the river which is called Lake St. Peter. The North branch of the mountains, already described enters Canada in 45° N. lat., and runs along the west side of Lake Memphramagog, the larger part of which is within the limits of Canada. The course of this North branch to the Chaudière has been already described. If our maps are correct, an extensive basin is formed between the north and south branch after their bifurcation, which contains Lake Memphramagog and Lake St. Francis, and also the upper basin of the Chaudière. Between the point where the St. Francis passes through the northern branch, after receiving the waters from Lakes Memphramagog and St. Francis, to the point where the northern branch is traversed by the Chaudière, several smaller streams enter the St. Lawrence, which rise on the northern face of this Northern branch.

The Richelieu, called also the Chambly, St. John, Lake George, in the State of New York. From Lake Champlain, from the northern extremities, in the parallel of 45° N. lat., with a broad fact may be regarded as a continuation of the lake. as it advances north, and the current also become course from Lake Champlain is nearly due north to the St. Lawrence, at the head of Lake St. Peter. boats all the way to Lake Champlain, a distance of ei

The St. Francis flows from the large lake of St. within the mountain region, and, after a S.S.W. course is joined by the Magog River, which flows in a north from Lake Memphramagog. After this junction the through the north branch of mountains, and enters after a general north-west course of about 150 miles contains numerous rapids, yet it is largely used for commodities.

The Chaudière rises in the mountain-region including North and South branch, and near the sources of the its upper course it passes through Lake Megantic 46° N. lat. its course is nearly due north. North of joined, on the right bank, by the Du Loup; and it takes the drainage of the high flat which here separates Chaudière and the St. John. Its course after the Du Loup is somewhat more to the north, and it enters about eight miles above Quebec. The whole course is Owing to the numerous rapids, this river is not navigable

THE NORTH EASTERN BOUNDARY OF THE UNITED STATES.

the political importance of this question renders some notice of it necessary, in a geographical point of view, and this is the proper place for it, the boundaries of the St. John's Basin having been described according to the latest information, which is embodied in the "Report of the Commissioners, presented to both Houses of Parliament by command of Her Majesty, July, 1840."

The following remarks, comprised within [], were written some time before the writer had seen the Commissioners' Report. Since the perusal of the Report it has not been found necessary to make any alterations other than to erase certain conjectures as to the physical geography of the country, which are now superfluous.

By the Treaty of 1783 the independence of the United States was recognised by Great Britain, and the boundaries between the possessions of the two parties to the treaty were determined. In 1783 Nova Scotia included New Brunswick, which was not formed into a separate government till 1784.

The Treaty of 1783 (Art. 2) determines the boundaries of the United States thus:—"The following are and shall be their boundaries, viz., from the north-west angle of Nova Scotia, viz., that angle which is bounded by a line drawn due north from the source of the St. Croix River to the high lands; along the said high lands, which divide those rivers which empty themselves into the River St. Lawrence from those which empty into the Atlantic Ocean, to the north-westernmost head of Connecticut River." The treaty then proceeds to determine the remainder of the northern, and the western and southern boundaries; and finally describes the eastern boundary in these terms:—"East, by a line to be drawn along the middle of the River St. Croix from its mouth, in the Bay of Fundy, to its source, and from its source directly north to the said high lands, which divide the rivers that fall into the Atlantic Ocean from those which fall into the River St. Lawrence."

It has been the fashion to speak of the vagueness of this description, and to consider it as inapplicable to the physical geography of the country—a mistake committed in a previous passage of this work (p. 353), which was written without due consideration, and before this subject had been carefully examined. A person tolerably well versed in physical geography will admit that the terms in which this disputed boundary is expressed are technically correct, and sufficiently precise to enable him to draw the line, provided the description is not at variance with the physical facts. The first thing that we must determine is the source of St. Croix, which is now admitted to be the source of the Chiputnati-

cook, one of the branches of the Scoodiac, or St. Croix: this point is marked in the common maps by the name Monument. The position to determine is that point where the meridian line shall reach the high lands in question. Now the north-west angle of Nova Scotia, consistently with the terms of the treaty, be considered an ascertained point; and the words—"That angle which is formed by a line drawn due north from the source of the St. Croix to the high lands, &c., may be taken, not as determining that angle, but as declaring such a line *does* form one of the sides of the north-west angle of Nova Scotia. But these words may also be taken as words which declare what shall be one of the sides of the north-west angle of Nova Scotia. It must be admitted that there is this ambiguity. Now, if we look at the words in which the eastern boundary is described, we find nothing is said of the north-west angle of Nova Scotia, but a line is to be drawn from the source of the St. Croix to the high lands, &c. In order, then, to make the whole treaty consistent, we must take that meaning of the first extract which cannot be consistent with the second extract; and then the problem is this,—a meridian line from the Monument to those high lands which divide the rivers that fall into the Atlantic from those which fall into the St. Lawrence. In this description of the high lands both parts of the treaty agree. When these high lands are determined, the boundary is to be drawn along them to the north-westernmost head of the Connecticut.

If this interpretation is correct, it matters not *where* this meridian line happens to run, provided it meets high lands which answer the conditions. The problem could be solved, if the meridian happened to run from the west as to divide the upper basin of the St. John into two parts; for it would, in its prolongation, meet high lands which separate the basin of the River St. Lawrence from that of the Atlantic. The meridian line, in its prolongation from the Monument, passes through the St. John to a point a few miles above the Great Falls, crosses the river. This is the point where the St. John's basin changes its direction: the lower basin lies, in its length, in a general direction from north to south; the upper basin, which commences at the Great Falls, lies in a direction from east to west, and is bounded to the south by the high lands above described (p. 420), which are near their eastern extremity by the meridian line before it reaches the St. John. After crossing the St. John, the meridian line enters the high lands, which (according to our present maps) there bound the basin of the St. John, and that of the Ristigouche which flows into the Chaleurs; and it is continued through these high lands till it reaches those high lands which border the right bank of the St. Lawrence. These high lands fulfil all the conditions of the treaty. We must, with the terms of the treaty by turning to the west as soon as we reach a water-shed which is common to the St. Lawrence and the

rs. The rest of the line along the St. Lawrence to the head of the Connecticut presents no difficulty. It must follow the high lands along the St. Lawrence till it reaches the elevated tract which is the water-shed between the St. John and the Chaudière; and this water-shed must be followed till it joins the high lands which run to the mouth of Connecticut River. This boundary-line, so determined, is the line claimed by the United States on behalf of the State of Maine.

To obviate objections which may be made by those who are not content with physical geography, and consequently use its terms with the precision, it may be added that there are high lands in that angle, between the St. John and the Ristigouche, which the meridian line enters its prolongation; that these high lands continue northward, and are a part of the high lands whose north-western slope forms the eastern bank of the St. Lawrence, and is furrowed by numerous short streams; that the existence of high lands along the northern and western boundary of the upper basin of the St. John is absolutely certain, from what we already know of the physical geography of this portion of America; and, in the absence of such knowledge, it might be presumed, from the known physical fact, that the upper basins of considerable rivers must be separated by high lands; further, such high lands are not a ridge—a term that is properly applicable only to small parts of particular mountain ranges—they are broad elevations, sloping to the several basins which they separate, and furrowed on their several slopes by numerous streams, which often rise in the same high swamp or flat, and descend down opposite slopes to their respective basins. The framers of the treaty used no such inaccurate word as ridge, which those who endeavour to ascertain the meaning of the treaty sometimes employ: they used the appropriate term high lands, the term which an accurate geographer would use now.

We have adopted that interpretation of the two extracts from the treaty, by which we make the meridian line to be the line which determines one side of the "north-west angle." If it shall be contended that this north-west angle of Nova Scotia had not been ascertained at the time of making the treaty, this is an additional reason for taking the words of the treaty as intended to determine the point which it calls the "north-west angle;" and therefore the "north-west angle of Nova Scotia" is not an important element in the question. The meridian line is determined, and the high lands are to be determined, and then the north-west angle of Nova Scotia will be determined; but its determination will not affect the question, for the whole matter will be settled by the determination of that which incidentally determines the north-west angle. If this interpretation is rejected, there is no possible solution of the difficulty, except by showing what the north-west angle is. Now it is almost superfluous to remark, that no country has an absolute north-west angle: the term north-west has only a relative meaning.

There is no north-west angle or point of Great Britain, unless we estimate it with respect to a *given* position from which we reckon. If a certain place can be pointed out, which, at or before the date of the treaty, was called and recognised as the north-west angle of Nova Scotia, such place might be considered as the north-west angle in construing this treaty. If there is no such place, the north-west angle must be determined by the junction of the meridian line with the high lands described in the treaty: and this interpretation is consistent with the meaning which we have given to the two extracts; that is, the north-west angle is not a point determined, but to be determined by the data of the treaty.

It has been sometimes contended, on the part of the British, that in the construction of the treaty the Bay of Chaleurs and the Bay of Fundy are not part of the Atlantic; and that, as the St. John flows into the Bay of Fundy, the high lands along the St. Lawrence, which the Americans consider to be those referred to by the treaty, do not divide the rivers that empty themselves into the St. Lawrence from those which fall into the Atlantic. Now it is clear, from the first extract, that all the waters which can flow from this part of America are comprehended, when we speak of those which flow into the River St. Lawrence and those which flow into the Atlantic. The division is—to use a technical phrase—exhaustive: there is nothing left to enumerate. In the second extract there is the same opposition between the rivers which flow into the St. Lawrence River and those which flow into the Atlantic. In both cases, also, the words *River St. Lawrence* are used,—a term which clearly excludes the Gulf of St. Lawrence. But, in the second extract, the mouth of the St. Croix is described as being in the Bay of Fundy, whence it is argued that the Bay of Fundy and the Atlantic are spoken of in contradistinction to one another. There is, however, no such contradistinction. The line is to be drawn from the mouth of the St. Croix, wherever the mouth is; and the words “Bay of Fundy” are merely added by way of explanation; and the words of explanation, being entirely unnecessary, must not be perverted to obscure the meaning of other parts of the description with which they have no connexion at all. Further, if the construction above referred to is admitted, the whole basin of the St. John was omitted by the framers of the treaty, in their enumeration of the rivers which flow from the high lands: but the absurdity of this construction cannot by any art be made more apparent than it is. If we look back to older documents, the meaning of this part of the Treaty of 1783 becomes still clearer. After the cession of Canada, in 1763, the southern boundary of Quebec was declared, by proclamation, to pass the St. Lawrence and the Lake Champlain, in 45° N. lat., and then to pass along the high lands which divide the rivers that empty themselves into the said River St. Lawrence from those which fall into the sea, and also along the north coast of the

des Chaleurs. In this passage the "rivers which fall into the sea" must include the St. John; and the sea and the St. Lawrence are opposed, just as the Atlantic and the River St. Lawrence are opposed in the Treaty of 1783. In the proclamation of 1763 the Bay des Chaleurs is mentioned. In the Treaty of 1783 there was no occasion to mention the Bay of Chaleurs, because the meridian line is so drawn as to enter the high lands at such a point as to leave the whole Bay des Chaleurs to the east, and therefore entirely out of the question. The description, in the proclamation of 1763, is exactly the same as that in the Treaty, if we leave out that part of the proclamation relating to the Bay of Chaleurs, the terms of which, as just observed, could not apply to the Treaty of 1783. If, then, the "sea," in the proclamation, includes the Bay of Fundy, as it certainly does, the "Atlantic," in the Treaty, necessarily does the same.

In the year 1774* the southern boundary of Quebec was again defined, and the southern line, as then described, is drawn from east to west: it is described "as a line from the Bay of Chaleurs along the high lands which divide the rivers that empty themselves into the River St. Lawrence from those which fall into the sea, to a point in 45° N. lat.," &c. Here, again, there is the same precision: the line is drawn from the Bay of Chaleurs, that is, if we interpret the words in the ordinary sense, from the head of the Bay of Chaleurs along the high lands, &c. It is clear that in this passage the rivers which flow from these high lands into the St. Lawrence are opposed to those which flow from the other side into the sea, that is, the description includes the St. John, and consequently there is no difference in the terms of this description and those of the proclamation of 1763.

If a geographer, with our present knowledge of the country, wished to describe a boundary, such as that which the Americans claim, and if he attempted to do this in terms which should be general and yet precise, he could use no other words more exact than those of the treaty. It may or it may not be that the Americans carry the meridian line too far to the north. Nothing but an accurate survey can determine exactly how far north it should be carried: but if the Americans have carried it too far, that does not in the least prejudice the true construction of the treaty.

We have treated this matter merely as a question in physical geography, in which point of view we maintain that it presents no difficulty at all. The matter has often been discussed in America: in this country it has attracted little attention from those who could best handle the matter. A writer in the *Westminster Review* (No. 66) has recently attempted a solution of the question, which is commendable for the temper in which it is written. We cannot, however, accede to any of his conclusions, further than that the boundary, as claimed by the British, is totally irreconcilable with the words of the treaty.]

* 14 Geo. III. c. 83.

The following are the most important conclusions made in the Report of the British Commissioners :—

They mention (p. 36) that, according to the true construction of the Treaty of 1783, the point of departure of the due-north line should be the *westernmost* source of the Scoodiac (St. Croix), instead of the *eastern* source, the Chiputmaticook; and this opinion of the Commissioners appears to be correct. The British would gain something thus carrying the meridian line further to the west, whatever is ultimately determined as to the northern boundary.

They admit and contend (p. 34) that the north-west angle of Scotia is not a known and determined point. It is therefore determined by the intersection of the due-north line with the High referred to by the treaty.

They consider it impossible (p. 35) to execute the Treaty of 1783 without the two governments first agreeing upon the line of high lands, a conclusion which is sufficiently obvious.

They report (p. 37) that they have found a "line of high lands" answering to the language of the 2nd Article of the Treaty of 1783, "beginning from the north-westernmost head of the Connecticut River, passing from thence in a north-easterly direction, south of the Roostuck, to the Bay of Chaleurs." These high lands above described (p. 420), as forming the southern boundary of the upper basin of the St. John.

The obvious answer to this is, that the Commissioners have found something which they were not required to look for. What they ought to have found, or at least looked for, is a range of high lands which are reached by drawing a due-north line from the Monument which, in their *western* course from the point where they are situated, the due-north line, should correspond with the description of the high lands. In another part of their report (p. 40) they consider the high lands which extend from the St. John, near the Great Falls, to the head of the Chaudière River as high lands corresponding to the description in the treaty, because the Chaudière does flow into the St. Lawrence, and the streams from the south side of these high lands flow into the Atlantic. But this is not a mode of interpretation that can be adopted; for the due-north line has struck the high lands of the Commissioners, and must run *westward* along them; and it should run westward along high lands which separate rivers that flow into the River St. Lawrence from rivers which flow into the Atlantic; whereas the Commissioners find high lands, in the first part of their course, separate rivers which flow into the St. John from rivers which flow into the Atlantic, and high lands only correspond to the description in the treaty where they have been followed *westward* as far as the sources of the Chaudière. That is, the Commissioners find high lands, which they follow to the point where they do answer the description in the treaty, having

point followed a line of high lands which do not answer the definition of the treaty.

Further, the Commissioners report (p. 41) that the high lands claimed by the Americans do not divide those rivers that empty themselves into the River St. Lawrence from those which fall into the Atlantic Ocean, because these high lands are of the character above described (p. 22 &c.). In this opinion the Commissioners will hardly be supported by any competent geographer. They further seem to lay some stress on the fact, that the high lands, at the source of the Metis, are only about 400 feet high, instead of being two or three thousand feet high, as asserted by the Commissioners of the State of Maine. The governor of Maine, in his annual message, rejoices at the discovery made by the Maine Commissioners, of the country being between two and three thousand feet high in these parts; and he seems to think that this discovery confirms the American claim. The British Commissioners have corrected this monstrous mis-statement, and shown how it probably originated; but still the absolute height of the high lands in this part is quite beside the question.

It is another objection of the Commissioners (p. 55) to these high lands of the Americans, in addition to their alleged want of continuity, and their not dividing waters flowing in opposite directions, "that they are at least fifty miles to the north of the 'north-westernmost head of Connecticut River,' and therefore could not by any reasoning be shown to be the high lands of the Treaty of 1783; those high lands being required by that treaty to go to the north-westernmost head of Connecticut River."

But the answer to this is, that the Americans do not claim those high lands which pass fifty miles to the north of the head of Connecticut River as *their* high lands. Such part of the high lands does not correspond to the words of the treaty as dividing the rivers: but when the Americans have followed their high lands westward to the source of the Etchemin, they then follow, in a southern direction, those high lands (1000 feet high) which divide the basins of the Etchemin and Chaudière from those of the St. John; and in doing so they comply with the words of the treaty; and any competent geographer will admit that so far they are right.

Whatever opinion may be formed of the interpretation of the words of the treaty by the British Commissioners, it must be admitted that they have collected sufficient extrinsic evidence to show that the British Government did not intend to surrender the upper basin of the St. John, nor did the United States expect to obtain it, by the Treaty of 1783. It further appears that the description of the high lands in the Treaty of 1783, which has given rise to the dispute, first occurs in the proclamation of 1763, and is repeated in the Act of 1774. The same description of the high lands is adopted in the Secret Journals of the Congress

(19th March 1779), in a Report of a Committee of that body on the boundary which they should insist on in their contemplated negotiation for a peace. A public Act of the State of Massachusetts of 1780 recognises the high lands of the Commissioners, as the high lands of the Treaty of 1783. The Commissioners trace the knowledge of the high lands to the work of Governor Pownall, which was published in 1776, though the materials were collected earlier, when he was Governor of Massachusetts. Pownall clearly describes the Commissioners' high lands from the head of the Connecticut as far east as the source of the St. Croix, and he considers them to extend to the Bay of Chaleurs; he does not describe them as dividing the rivers that flow into the St. Lawrence from those that flow into the Atlantic. This mis-description appears in the proclamation of 1763, and it is absurd not to admit that it is a mis-description, as applied to the high lands of the Commissioners. From the head of the Bay of Chaleurs till we reach the source of the Chaudière, the description, as applied to these high lands, is completely false. Yet extrinsic evidence shows that these are the high lands of the treaty; an interpretation confirmed by the fact that the Americans, in the negotiations prior to the treaty, first proposed to make the St. John a boundary, and then abandoning this claim, agreed to substitute for it the St. Croix. In substituting the St. Croix for the St. John, by way of abandoning their claim to make the St. John a boundary, they necessarily impliedly surrendered their claim to the upper basin of the St. John, and consequently the high lands which are to be reached by the due-north line from the head of the St. Croix, must be high lands which are south of that basin. If such high lands can be found, they are the high lands intended by the treaty; such high lands are found, but unfortunately they are wrongly described. By a strange mis-management of the framers of the treaty, the terms are clear and precise, and yet they may be shown to be contrary to the meaning of the parties, if we are allowed to resort to extrinsic evidence. In the preliminary negotiation the Americans agree to accept something which is less in their favour than the boundary of the St. John, and then both parties sign the treaty, the terms of which give to the party which made the concession much more than that party had originally claimed.

LOWER CANADA NORTH OF THE ST. LAWRENCE.

Lower Canada is divided into the three principal districts of Quebec, Montreal, and Three Rivers, and the two minor districts of Gaspé and St. Francis. It was subdivided into 40 counties by an act of the provincial legislature (9 Geo. IV. c. 73): the minor subdivisions are seignories, fiefs, and townships; of seignories and fiefs, besides small grants, there are said to be 208, and of townships 160. The land in Lower Canada are held either by feudal tenure or in socage; the land

the former tenure, with some few exceptions, were all granted before the conquest of Canada in 1759. Many of the seigniorial grants are of great extent; and they occupy almost all the lands on the banks of the St. Lawrence, and those on the Richelieu, Yamaska, and Chaudière. The grants in socage have been made since the conquest, and they form the townships. Many of these grants lie behind the seigniorial grants, but some of them have rivers for their front.

The country North of the St. Lawrence may be conveniently divided into three districts: first, the tract between the Ottawa and the St. Maurice; second, that between the St. Maurice and the Saguenay; and third, the remainder of the province east of the Saguenay.

The country between the Ottawa and the St. Maurice contains the counties of Ottawa, Two Mountains, Terrebonne, La Chenaye, L'Assomption, Berthier, St. Maurice, and Montreal. The length of river which bounds this district on the west and south is 450 miles, nearly the whole of which is navigable. The St. Lawrence is navigable for large vessels from Trois Rivières at the mouth of the St. Maurice to Montreal, a distance of ninety miles. The lands on the Ottawa are generally very fertile: on the river there are rich alluvial grounds, and behind them a more elevated tract. The village of Wright is at the mouth of the Gatineau, a stream which enters the Ottawa on the left bank: it is opposite to the termination of the Rideau Canal, and at the present head of steam navigation on the Ottawa; which circumstance, combined with the proximity of a fertile district, may render it a place of considerable importance. The settlements above the township of Hull, which contains the village of Wright, are not numerous, and they are mainly confined to the Lake of Chaudière and the Lac des Chats, which is still higher. Grenville, on the Ottawa, near the termination of the steam-boat navigation, below the Falls of Chaudière, is a flourishing place.

The interior of the country between the St. Maurice and the Ottawa is very little known. In 1829 an exploring party ascended the St. Maurice to Wimontichingue in 48° N. lat., and then passed along a series of lakes in a south-west direction to the source of the Aux Lièvres, which the party followed to its junction with the Ottawa on the left bank, a direct distance of 150 miles, but considerably more along the bends of the Aux Lièvres. The tract which is thus surrounded by rivers and fresh water lakes, is about 12,000 square miles: the interior of it is almost unknown.

The lower country between Grenville on the Ottawa and the St. Maurice, is watered by numerous streams, on which there are many flourishing settlements. This tract is generally fertile. There is a main road along the St. Lawrence, and there are roads along the banks of the chief rivers, as the Du Loup, Maskinonge, L'Assomption, &c. The town of Trois Rivières, or Three Rivers, is situated on the west bank of the St. Maurice at its junction with the St. Lawrence: the name is derived from

the circumstance of the entrance of the St. Maurice being divided into three parts by two small islands. Though the third town in the Three Rivers is a place of comparatively little importance, and its population probably does not much exceed 3000. It was founded by the French in 1618 with a view of being a *dépôt* for the fur-trade; but when the establishment of Montreal it declined. There is sufficient water for large ships to lie close to the wharfs. Some trade is done in the exports of timber, wheat, the produce of the iron mines of the St. Maurice, in peltries to a small amount, and in the supply of the province with British manufactured goods. The chief buildings of the town are the Ursuline convent, founded in 1667, for the education of youth, chiefly females, and as an asylum for the sick and invalid; the court-house, gaol, and barracks. From Three Rivers westward to the St. Lawrence to the junction of the Ottawa, there is a series of fishing settlements and villages. Of these villages Berthier, on the way between Montreal and Three Rivers, and St. Eustache, at the confluence of the Du Chêne and the St. Lawrence, are the principal; the first of them are places of some trade. On the Lake of Two Mountains is a village of Algonquin and Iroquois Indians, among whom missionary priests reside.

The Isle Jésus, which is separated from the mainland by the mouth of the St. Lawrence called the Rivière St. Jean or Jesus, an island of Montreal by the Rivière des Prairies, is about five miles long and six wide in the widest part. This fertile and elevated island is a seignory which belongs to the Roman Catholic and ecclesiastics of the seminary of Quebec. There is now no timber on it.

The island and seignory of Montreal, which also forms the same name, is situated at the confluence of the Ottawa and St. Lawrence. This beautiful island is about thirty-five miles long and five wide in the widest part: it is the property of the Seminary of Montreal. With the exception of the Côteau St. Pierre and other elevations, the island is level, and is watered by numerous streams which turn many grist and saw-mills in the interior; many more on the shores are worked by the river which surrounds the island. The canal of La Chine, which was made to avoid the passage of the Sault, or rapid, St. Louis, in the St. Lawrence, connects the west end of the island with the town of Montreal through a low tract. The soil of the island of Montreal is fertile and well cultivated: the climate is favourable to the growth of excellent apples and pears, and to the ripening of the grape; peaches, with care, attain perfection. The island contains numerous villages. The city of Montreal is situated on the east side of the island. N. lat.: the area which the city and the suburbs cover is 1000 acres. It was founded in the year 1640, and at first had the

emarie, which was changed to that of Mont Réal, or Royal Mountain, an eminence of that name which commands the city. Between the al Mount and the river there is a low tract of land, about two miles e, on which the city stands. Montreal may now be called a hand-e place, at least the newer parts of it. It is divided into the upper the lower town, the latter of which is described as consisting "of my-looking houses, having dark iron shutters; and although it may little cleaner than Quebec, it is still very dirty; and the streets are only narrow and ill-paved, but the footpaths are interrupted by slanting ar-doors and other projections." (M'Gregor.) The upper part of the is much more agreeable. The houses are generally built of a grayish e, and roofed with tin or sheet-iron. The Rue Notre Dame, which 344 yards long and 30 feet wide, contains most of the principal edi-: these are the Hotel Dieu, a large hospital for the reception of the poor; the convent of Notre Dame, designed for female instruction; General Hospital, which is a refuge for infirm poor and invalids; the Roman Catholic Cathedral, the Recollet Convent, the Convent of the y Sisters, the Seminary of St. Sulpice, the Petit Seminaire, the Eng- and Scotch churches, the Court-house, New Gaol, Government House, son's Monument, and the Quebec Barracks. The new Cathedral, ch was commenced in 1824, is in the perpendicular style, and is one he finest buildings in North America. Both the Seminary of St. pice and the Petit Seminaire, which was built by the Seminary of St. pice, are places of education for youth. M'Gill's College, for which a nificent provision was made by the founder, James M'Gill, was incor-ated in 1821. It has five professors, who give instruction in the ious branches of a liberal education; and it is open to persons of all gious denominations. The city contains a library and reading-room, atural history society and a mechanics' institute, a savings'-bank, and er useful associations. The population, which is estimated at more n 35,000, is chiefly French; the remainder are English, Scotch, Irish, A Americans. The city, until lately, had nothing like a regular police. om its position Montreal is a place of considerable trade. Vessels awing 15 feet water can come close up to the shore when the river not obstructed by ice. In the year 1836 the tonnage of the shipping hich entered the port of Montreal was 22,289, of which 15,410 was m Great Britain: the tonnage of the shipping which cleared out-ards was 21,901, of which 18,414 was to Great Britain. Until cently there were no wharfs, and the ships lay in deep water close to e bank in front of the city.

The county of Vaudreuil forms a triangular piece of land, bounded by ke St. Francis, the Ottawa, and the boundary line, above described, tween Lower and Upper Canada in its course from the Lake St. Francis the Ottawa. The soil is generally fertile, and the surface is level, with e exception of some gentle ridges. "The most conspicuous height

within it is the Montagne Ste. Magdaleine, in the seignory of which near the summit of which is a rectangular area of about twelve acres, wholly destitute of vegetable production, and covered with rounded stones so distributed as to exhibit the appearance of ploughed ridges, and has derived the appellation of *Pièce de Guérêts*. Beneath it, the noise of a brook are distinctly heard, but the waters themselves have not been discovered, though some attempts to do so were made by turning the stones immediately at the spot where the noise is most audibly heard, to the depth of 12 or 18 feet, to which they have penetrated, neither soil of any species could be found, but merely a dry accumulation of trap and sand-stones of moderate bulk." (Bouchette.) The rivers Rivaud and Vaudreuil are on the Lake of the Two Mountains. The extreme eastern point of the county of Vaudreuil, the *Pointe des Cascades* is a place of great thoroughfare between Upper and Lower Canada. Boats sail from this point to *La Chine* in two hours, and from *La Chine* to this point in three hours. The steam-boat navigation, which was interrupted at the *Pointe des Cascades*, is resumed at *Côteau du Lac*, twelve miles higher up. The road from the cascades runs along the north bank of the river to *Côteau du Lac*, and between these two places is a succession of dangerous rapids called *Les Cascades* and *Les Rapids*. The steam-boat navigation is continued from *Côteau du Lac* to *Kingston*, at the head of the *Lake St. Francis*, when it is again interrupted by the succession of rapids called the *Long Sault*, and the journey is continued by stages to *Prescott*, on the north bank of the river, nearly opposite to *Ogdensburg* in New York. From *Prescott* to *Kingston* the steam-boat navigation is uninterrupted. A ship canal has been commenced with a view of avoiding the *Long Sault* rapid, and an immense sum has been expended on it; but this great work still remains unfinished, owing to political circumstances, originating in the state of the provinces of Upper and Lower Canada.

The country on the north bank of the St. Lawrence, between *St. Maurice* and the *Saguenay*, comprehends the counties of *Champlain*, *Portneuf*, *Quebec*, *Montmorency*, and part of *Saguenay*. The river of this district is about 190 miles; *Quebec* is about 70 miles from the junction of the St. Maurice with the St. Lawrence. There are few settlements more than ten miles in the interior, and the most populous part of this district is that which lies west of *Quebec*, and is drained by the rivers *St. Batisca*, *St. Anne*, *Portneuf*, and *Jaques Cartier*. These rivers are navigable, but are used in spring for the floating down of rough lumber made into strong rafts. The land is generally good, and is said to be fertile as it recedes from the river. There is a road along the St. Lawrence from *Quebec* to *Three Rivers*. The chief parishes on this line are *Saint-Jean* and *St. Anne*, at the latter of which there is good accommodation for travellers.

Quebec is situated on the north bank of the St. Lawrence, in 46°

° 10' W. long., at a point where the river, being followed upwards to the sea, suddenly contracts, and, accordingly, the Indian word Quebec is said to signify narrow. Quebec was founded by Samuel de Champlain in 1608, and has never had any other name. It was taken by the English

General Wolfe in 1759, after a battle fought on the plains of Abraham, close to the town. Wolfe fell in the battle, and the Marquis de Montcalm, the French commander, died shortly after of his wounds.

In the year 1775, during the American revolutionary war, Generals Burgoyne and Montgomery made an unsuccessful attempt to carry Quebec by assault in the night, and General Montgomery fell in the attack. The town stands on a promontory, which is a part of the high lands that lie at the back of Quebec; the extremity of this promontory, which is called Cape Diamond, rises abruptly more than 300 feet above the St. Lawrence. The site to Cape Diamond, on the southern bank of the river, is Point Levi.

The elevation gradually declines from Cape Diamond towards the north, and then descends suddenly to the level of the St. Charles, a small stream which enters the St. Lawrence immediately below Quebec. The distance across the peninsula from the St. Charles to the St. Lawrence in the line of the fortifications, is 1837 yards; the circuit of the fortifications is about 2½ miles. About 40 acres of this inclosed space on Cape Diamond are occupied by military works. The city is divided into the upper and the lower town. The lower town lies round the base of the citadel, and a large part of it stands on artificial ground. Formerly the citadel was used to wash the base of Cape Diamond at high tide; but various wharves have been from time to time constructed upon the beach, and a foundation has been made strong enough to support houses. There is a dock for repairing ships, and a ship-building yard, under Cape Diamond.

The houses in this part of the town are generally ill-built, and the streets are narrow and badly paved. There is a government gun-boat wharf and a guard-house at a part called Brehaut's wharf. From the wharf to a point called Cul de Sac there is an almost uninterrupted line of store-houses and wharfs, at most of which ships can lie at low water without touching the ground. The public buildings in the lower town are the main Catholic Church, the Bank, the Exchange, the Government Warehouse, the Custom-house, the wharfs, dockyards, and markets.

The bank contains the Quebec library, which is the most valuable in the province. On the low ground between the walls and the St. Charles is the mean suburb of St. Roche. The ascent to the upper town is by a flight of steps from Brehaut's wharf to the citadel, and also by a long narrow street which leads through the city walls. The streets in the upper part of the town are rather narrow, but pretty well built. All the public buildings, and many of the private houses, are roofed with tin or sheet-iron. The upper town is surrounded by a wall, mounted with heavy ordnance, and has four gates, which are strongly defended. Altogether, Quebec is one of the strongest fortresses in the world. The prin-

principal buildings are the Hotel Dieu, the Convent of the Ursulines, the Hôpital Général, the Monastery of the Jesuits, now used as barracks for the Protestant and the Roman Catholic cathedrals, and the old parliament, and the Bishops of Quebec, now the Parliament House. The Castle of St. Louis, formerly the residence of the Governor, was accidentally burnt down during the winter of 1834-5. In the year 1827 a monument was erected in the upper town to the memory of Wolfe and Montcalm, under the patronage of Lord Dalhousie, the then Governor. The armoury of Quebec is said to be only inferior to that of the Tower of London.

There is a French college at Quebec for general instruction, a law school, and various French establishments for education. There is also a royal institution for the advancement of learning, a literary and historical society, a mechanics' institute, and various benevolent and friendly societies. Four newspapers are published in the city—one only in English, and another only in French, and the other two in both languages.

The river opposite to Quebec is about 1300 yards wide, and the tide rises about 25 feet. About five miles below Quebec is the fertile island of Orleans, which is about twenty miles long and four or five wide: it is pretty densely inhabited and well cultivated. This island divides the river into two channels, both of which are navigable. Between the southern extremity of Orleans and Cape Diamond is the basin of Quebec, which is about five miles long and four broad in the widest part. The river is seldom firmly frozen over at Quebec, owing to the high tide; but the winter lasts from November to May, during which time all commerce on the river is suspended. The winter is intensely cold, and the summer is as warm as that of the south of Europe.

The manufactures of the town are spirits, ale, tobacco, soap, and candles.

The population of Quebec in 1831, including the upper and lower town, with the three suburbs, was 25,915, of which number about two-thirds are said to be French. At the time of the conquest in 1759, it was about 8000 or 9000. In the year 1837, 937 ships, with a tonnage of 293,268, entered the port of Quebec, of which ships 787 were from Great Britain; and 1050 ships, with a tonnage of 322,877 cleared out, of which ships 913 were for Great Britain. In the years 1836-5-4, the number of ships, both inwards and outwards, was somewhat greater. The number of emigrants who land at Quebec is very considerable: in the years 1830-1, the number was above 50,000 in each year; in the following years, to 1837 inclusive, it varied from about 12,000 to about 30,000; in the year 1838 the number was reduced to 4992, but in 1839 it increased to 7439. The diminution in 1838 is said to be owing to the disturbances in Canada at that time; and the amount of emigration in the present year (1840) is said to be much increased. A great proportion of the emigrants are poor persons from Ireland, who often land in a very deplorable state. Of the emigrants into the Canadas it is estimated

that more than one-half ultimately go to the United States. A large part of the population of Quebec is described as of a lawless and vicious character, and yet the police of the city was very defective and quite insufficient for the protection of life and property until within the last two years.

About nine miles north-east from Quebec the river Montmorenci enters the St. Lawrence. The river flows with great rapidity from the hilly country in the interior, and when within a few yards of the banks of the St. Lawrence, is precipitated over a perpendicular ledge of rock about 200 feet high, and forms the Falls of Montmorenci. The breadth of the sheet of water is about 50 feet.

The country to the north-east of Quebec is more mountainous than to the west, and contains few settlements. Between Quebec and the Saguenay it is traversed by numerous streams—as the St. Charles, Montmorenci, St. Anne's, Du Gouffre, Mal Bay, and Black River. There are excellent mill sites on these rivers and their smaller branches. The æstuaries of the St. Charles, Du Gouffre, and Mal Bay, form convenient strands to the river-craft and boats which trade at Quebec, at St. Paul's and Murray Bays. Vessels from 150 to 200 tons are occasionally built at these places, on account of the facility of getting timber. The settlements at St. Paul's Bay are chiefly in the deep valley of the Gouffre, or on the slopes of the surrounding hills. The settlements at Mal Bay are the remotest with which a land communication is kept up.

The interior of the country between the Saguenay and the St. Maurice was explored by Mr. J. Bouchette, junior, in 1828. He ascended the St. Maurice to La Tuque, a distance of 100 miles, and thence he went up the Bastonais River, one of the branches of the St. Maurice, and made his way to Lake St. John, which he circumnavigated. He then proceeded from the Lake St. John to the junction of the Chicoutimi and the Saguenay, which he descended to the St. Lawrence, by which river he returned to Quebec, "thus completing an internal circumnavigation of about 800 miles in an Indian birch-bark canoe." (Bouchette). The country between La Tuque and Lake St. John is generally covered by lakes and swamps, and occasionally traversed by hills of moderate height, consisting chiefly of granite. There is some cultivable land about the larger lakes, but it is too remote for any settlements at present. There is an establishment called the King's Post Company's Establishment at the mouth of the Metabetsuan, which enters Lake St. John on the south, and about this place and some distance westward from it there is good land on the south side of the lake, and also eastward as far as the mouth of the Petite Décharge. There is also some good land on the west side; but on the east side the soil is not so favourable. The large island bounded by the Grande and Petite Décharge is said to be adapted to settlements. The port of Chicoutimi, at the junction of the two Décharges, has anchorage for vessels in six feet water, and is well calcu-

lated to become the centre of trade for the valley of the Saguenay. The Bay des Has, sixty miles above the mouth of the Saguenay, is capable of containing the largest ships of the line, which can enter it with the same wind that brings them up the river; and it is favourable for a settlement on account of the large tracts of arable land which surround it, and extend to Lake Kinugami and Chicoutimi. The port of Tadousac is at the mouth of the Saguenay, in $48^{\circ} 6' N.$ lat.: the harbour is generally secure, but the surrounding country is very poor.

The territory east of the Saguenay has a river and coast line of above 600 miles; but little is known of it, except the coast, which has been explored by fishermen and hunters. Portneuf is a trading port about forty miles below the Saguenay, within the grant of Mille Vaches. Numerous rivers cross this extensive country and enter the St. Lawrence; but it does not seem probable that any part of this tract is adapted for agricultural settlements. There are no roads along the coast, and the small settlement at Portneuf, which consists of a few houses and a chapel, has no communication with the civilised world except by water. Nearly the whole of the extensive country east of the Saguenay, and a large part of the country west of it, are called the *Domaine*, and comprehended in a lease from the Crown to the King's Posts' Company, who have the exclusive privilege of bartering, hunting, and fishing within the limits of the *Domaine*.

LOWER CANADA SOUTH OF THE ST. LAWRENCE.

The tract of country between the Chaudière and the western limits of Lower Canada is said to contain near 14,000 square miles. It includes the seventeen counties of Megantic, Sherbrooke, Lotbinière, Nicolet, Yamaska, Drummond, Richelieu, St. Hyacinthe, Shefford, Stanstead, Missisquoi, Rouville, Acadie, Chambly, Beauharnois, La Prairie, and Verchères, and parts of the counties of Dorchester and Beauce. The total population of the district is probably near 200,000. Part of the lands are held by feudal tenure, and part in socage. The feudal grants occupy about 3800 square miles. In the townships the lands are held in socage, the prevalent language is English, and the manners of the settlers and their agriculture resemble those of their neighbours in the state of Vermont. In the seignories French is the common language.

The tract between the Yamaska and the boundary of the province on Lake St. Francis is a rich plain, the centre of which is traversed by the Richelieu. The only lands in this tract held in socage are three townships. The soil is generally fertile, and produces rich crops, which furnish the principal supply of wheat from this province to the British market. The main roads follow the banks of the river, and are generally good.

The town of Sorel or William Henry stands at the junction of the Richelieu with the St. Lawrence, on the site of a fort built by the French

in 1665. It contains about 200 houses, built of wood, and about 1500 inhabitants: the Protestant and Roman Catholic churches are of stone. There are barracks and some government buildings. Some vessels are built here, as there is sufficient depth of water in the Richelieu. There is some trade in timber and grain. On the basin of Chambly, at the place where the current of the Richelieu becomes more gentle, is situated the village of St. Joseph. There are extensive corn-mills on the rapids above the basin. La Prairie, a village on the St. Lawrence, about eight miles from Montreal, is the most populous and thriving village in the province. A rail-road, the only one in British North America, connects La Prairie with St. Johns on Lake Champlain. This railway, which was constructed by a company of individuals under the name of the Champlain and St. Lawrence Railroad Company, is sixteen miles long, and consists of plate-rails laid on wooden sleepers. The road passes through a level country. Two locomotive-engines are used on the railway.* The extensive seignory of Beauharnois is in the western angle of this part of the province, which is formed by the American boundary-line and Lakes St. Louis and St. Francis. The small village of Beauharnois, on the shores of St. Louis, is visited by the steam-boat that plies between La Chine and the Cascades for its daily supply of wood.

The tract along the St. Lawrence between the Yamaska and the Chaudière is occupied by seignories. There is also the seignory of Nouvelle Beauce on the Chaudière. A large part of these seignories is still covered with wood: the cultivated parts produce grain and flax. There are several villages situated on the banks of the St. Lawrence. At the village of Nicolet there is a college which was established by Pléssis, the late Roman Catholic Bishop of Quebec. The settlements in La Beauce are on the Kennebec road, which was opened in 1830, and forms a direct communication between Boston and Quebec. Large quantities of live stock are imported into the province by this route; and owing to the increase of trade, &c., a custom-house officer has been stationed at St. Mary's, which is the largest village on the Chaudière.

The remainder of this tract of country is comprehended under the name of the Eastern Townships, which are thinly settled. In some of these townships that border on the United States, American settlers have squatted on the uncultivated lands which have been the subjects of extensive grants. The townships in Lower Canada, it should be observed, are divisions established for surveying rather than for other purposes, and in their organization they bear no resemblance to the townships in the New England States, with which the sameness of name and proximity of these eastern townships naturally lead to a comparison.

The town of Sherbrooke, which contains about 50 houses, is situated at a considerable elevation on both sides of the Magog, and at its junction

* "Stevenson's Sketch of the Civil Engineering of North America."—London, 1838, p. 274.

with the St. Francis. Being at the head of the present navigation of the St. Francis, and, till recently, the seat of jurisdiction for the district of St. Francis, it is a place of some importance. Stanstead, which is south of Sherbrooke, and near the American border, is the next village in size, and in appearance it is somewhat superior to Sherbrooke. There are other small villages in the eastern townships. The inhabitants are an industrious and thriving people. They have various kinds of domestic manufactures, as homespun cloths and linens.

The part of Canada which lies east of the Chaudière forms a long narrow strip about 280 miles in length, bounded by the banks of the St. Lawrence, and the high lands which separate them from the basin of the Upper St. John: it joins the district of Gaspé. The tract included within the upper basin of the St. John is claimed, as above stated, both by the Americans and the English. There are no large settlements along this bank of the St. Lawrence, though they are more numerous than on the north bank. At the mouth of the Rivière du Sud, which enters the St. Lawrence about 35 miles below Quebec, is the village of St. Thomas, situated in a beautiful rich and well cultivated valley. Between St. Thomas and Point Levi are the villages of St. Michel and St. Vallier, on the banks of the St. Lawrence, and on a good road. Still lower down are the settlements of St. Roche des Aulnais, St. Anne's, and those at the mouth of the river Ouelle, a few miles above Kamouraska. At St. Anne's there is a college; and at Ouelle there is a good porpoise fishery. Kamouraska, which is 90 miles from Quebec, is situated in a salubrious country; and as the water of the St. Lawrence is here quite salt, it is a place of considerable resort in summer as a bathing place. The country about Kamouraska is well settled: it produces large quantities of butter for the Quebec market. Below Kamouraska the portage of Temiscouata commences. This portage, which is about 51 miles long (including the whole distance from the St. Lawrence), crosses the country between the St. Lawrence and Lake Temiscouata, and is part of the mail route to Fredericton and St. John in New Brunswick (p. 390). Lower down the river, and nearly opposite the mouth of the Saguenay, are the parishes and small settlements of Cacona, Isle Verte and Trois Pistoles; and still lower, those of Rimouski. There is no public road further than a point called Anse au Coq, about 12 miles below the church of Rimouski. Up to this point there is a main road all along the St. Lawrence, which connects the numerous settlements on the river: other roads, called *routes*, lead from the main road into the interior, and are intersected by other long lines of road parallel to the main road along the St. Lawrence. The roads are generally kept in good repair, and there are substantial bridges over many of the streams. At the mouth of the Mitis vessels take in cargoes of timber. The chief settlements in the seignory of Mitis are about Little Mitis Bay, and have a light but good soil, which is improved by the sea-

weed that is used as manure. In the neighbourhood there are fisheries of salmon, herring, halibut and cod. Kempt road leads from Grand Mitis to Lake Metapediac, and thence to the river Ristigouche, and thus opens a communication with Gaspé and New Brunswick. Matane, about 30 miles below Mitis, is separated from it by an uninhabited country, but the intervening tract is said to be well adapted for settlements. There are a few settlements at Matane on both sides of the river Matane.

The district of Gaspé commences at Cape Chat, and the coast line extends from that point to the head of Ristigouche Bay: the coast line is estimated to be about 350 miles. The surface of the country is uneven, but it is generally well wooded, except on some of the highest hills, and is said to be adapted to agriculture. There is a tract of rich land about 50 miles in length on the Bay of Chaleurs, and the land on the Ristigouche is still more fertile. The chief rivers are the Ristigouche, which has numerous branches, and enters the Bay of Chaleurs. The other rivers which flow into the Bay of Gaspé and the St. Lawrence are inconsiderable. Gaspé Bay is an excellent harbour. The numerous lakes on the high land of the interior, as well as the rivers, abound in fish. The roads are few and very bad. From Cape Chat to Gaspé Bay the coast is unsettled: the population is principally on Gaspé Bay, and between point Mackerel at the north entrance of the Bay of Chaleurs and the Ristigouche. There are also a few Micmac Indians. In 1825 the population of the district, not including the Indians, was about 5000. The district is divided into the two counties of Gaspé and Bonaventure. The only villages are Carlisle on the Bay of Chaleurs, and Percé on the east coast. The soil produces good wheat, barley, pease, oats, potatoes, turnips and carrots; and there are excellent meadows. The climate is not more rigorous than that of the other countries bordering on the St. Lawrence, and the sky in the Bay of Chaleurs is free from the fogs that prevail on the coasts of New Brunswick and Nova Scotia. The chief exports are fish and oil, with some timber and furs. The cod fishery employed about 1800 persons twenty years ago. The produce of the herring and salmon fisheries is considerable; and the whale fishery employs a few schooners. Some ship-building is carried on in the district. The timber trade of the district, which commenced about 1815 or 1816, is now become considerable. In some parts of the district there are very extensive forests of pine, which offer the materials for an extended timber trade. There is a resident judge of the district, who has a salary of 500*l.* a year.*

The population of Lower Canada, by the census of 1830, was 511,917, of whom a very great majority profess the Roman Catholic faith. According to returns made to the House of Assembly in 1831,

* Very little seems to be known of the administration of justice in Gaspé by the authorities at Quebec.—(Lord Durham's Report, p. 42.)

the extent of land occupied by proprietors was 3,981,793 statute acres; and the whole number of houses was 85,437. The chief occupation of the people is agriculture. There are domestic manufactures of the common fabrics used for clothing, such as coarse cloth, flannel, and linen. In 1831 there were 395 grist mills, 737 saw mills, 70 distilleries, 489 pot and pearl manufactories, 103 iron works, 14 oil mills, 97 fulling mills, and 90 carding mills.

The number of horned cattle in 1831 was 389,706, of horses 116,686, of sheep 543,343, and of hogs 295,137. The agricultural products are wheat, peas, oats, barley, rye, Indian corn, potatoes, and buckwheat.

The exports of Lower Canada are pot and pearl ashes, wheat, flour, and timber. Salted meat, with grain and flour, are sent to the West Indies. The trade with the United States, so far as appears from the custom-house returns, is trifling. The imports from Great Britain are metals, cordage, East India produce, and the various kinds of British manufactures; and from the British West India Islands sugar, molasses, coffee and rum.

There is a Protestant Bishop of Quebec, whose diocese includes the Upper Province also, an Archdeacon of Quebec, rectors of certain parishes, and ministers for the 'missions,' whose stipend is paid through the Society for the Propagation of the Gospel in Foreign Parts, which receives for that purpose an annual parliamentary grant. There is also a Roman Catholic Bishop of Quebec, and a very numerous body of Roman Catholic clergy scattered through the province, and particularly in the seignories, where the great majority of the people are Roman Catholics. The Roman Catholic clergy are a most exemplary body of men, and in the late disturbed times have used their influence for the purpose of preserving tranquillity. The Roman Catholic church still retains the endowments which it had at the time of the conquest; and the priests have the right to tithes of lands, but only so long as the proprietor is a Roman Catholic. As soon as the land passes, by sale or otherwise, to a Protestant, the Roman Catholic priest loses the tithes. The incomes of the Roman Catholic clergy may be considered large, according to the scale of living in the country. There are places of worship all through the province for dissenters from the Anglican church.

The means for education of the superior kind may be collected from what has been already stated. It is said that the deficiencies in this respect cause a great many young men to resort to the United States for general, and still more for professional education. The French and Irish population of Lower Canada are indebted for their education to the Roman Catholic clergy; but the people are generally ignorant, and the British Government is charged with having attempted nothing for the promotion of general education since the conquest of the Province. The British Government is also charged with applying 'the Jesuits'

estates, part of the property designed for purposes of education, to supply a species of fund for 'secret services.' (Lord Durham's Report, p. 49.)

The number of militia-men in 1833 was as follows:—

	The number of Militia-men from 18 to 39 years of age.	Number of Muskets.
Quebec . . .	29,786	2836
Three Rivers . .	8,709	1330
Montreal . . .	47,377	3708
St. Francis . . .	6,215	130
Gaspé . . .	2,250	
	<hr/> 94,337	<hr/> 8004

There is a chief justice of Quebec with a salary of 1500*l.*; three puisne judges of Quebec, with salaries of 900*l.* each; one chief justice of Montreal, with a salary of 1100*l.*; three puisne judges at Montreal with salaries of 900*l.* each; a resident judge at Three Rivers, 900*l.*; a judge of the inferior district of St. Francis, 500*l.*; and a judge of the inferior district of Gaspé, 500*l.* These sums are given in the schedule of the Act (3 and 4 Vic., c. 35.) by which the two Provinces are reunited. The same schedule gives a salary of 1500*l.* to one chief justice of Upper Canada; salaries of 900*l.* to each of four puisne judges, and 1125*l.* to a vice chancellor. By the same Act the salary of the Governor of the United Provinces is 7000*l.* per annum, and that of the Lieutenant-Governor, 1000*l.*

The British American Land Company, which was incorporated by the British Parliament, has purchased from the British Government nearly 1,000,000 acres in the counties of Shefford, Stanstead and Sherbrook, part of the eastern townships of Lower Canada. Part of these purchased lands, consisting of crown and clergy reserves, are mostly in detached lots of 200 acres. By agreement with the Government, part of the purchase-money paid by the Company is to be expended in public works and improvements, such as high roads, bridges, canals, school-houses, market-houses, churches, and parsonage-houses.

By the proclamation of 1763 the islands of Anticosti and Madeleine or Magdalen were annexed and put under the care and inspection of the Governor of Newfoundland. By the 14th Geo. 3, c. 83, Anticosti and the Magdalen Islands were, during his Majesty's pleasure, made part and parcel of the Province of Quebec, as created and established by the said Royal Proclamation. By the Act for re-uniting the two Provinces of Upper and Lower Canada, her Majesty may, if she pleases, annex the Magdalen Islands to the Island of Prince Edward.

The Magdalen Islands, eleven in number, are in the Gulf of St. Lawrence, between 47° 30' and 47° 38' n. lat.: they are included in Gaspé. Magdalen, or as it is otherwise called Isle Royale, or Coffin's Island, is

the largest of the group, and it contains some settlements. It is 25 miles long, and in some places one league wide: it is generally barren and mountainous. All the rest of the islands are of inconsiderable size. The population, which is about 1000, are chiefly French Acadians. They have no agriculture beyond the cultivation of some potato grounds; but they have pasture-grounds, on which they maintain some live stock. The inhabitants derive their subsistence from the fisheries, which are chiefly for seals, herring and cod. The fishery of the sea-cow, as it is called, was formerly productive, but it has now ceased to be followed, as the sea-cows have deserted their usual places of resort. The inhabitants are a very healthy people, with light complexion and flaxen hair.

There are two churches on the islands, and a parsonage-house for the Missionary. Numerous shipwrecks take place on these islands, and the wrecked persons would perish but for the kind assistance of the poor inhabitants.

(Bouchette's *British Dominions in North America*; Bouchette's *Topographical Dictionary of Lower Canada*; M'Gregor's *British America*; Lord Durham's *Report on the Affairs of British North America*; *Parliamentary Papers*.)

POLITICAL HISTORY.

In a work of this nature, a long discussion on the state of politics in the two Canadas would be out of place; yet, in existing circumstances, some slight notice of the political history of the Canadas is necessary.

Canada, originally discovered and first settled by the French, was by them called New France (*La Nouvelle France*), and in the early part of the eighteenth century, in addition to the country now comprised within the Canadas, it included the whole of Nova Scotia and New Brunswick, and a considerable portion of the States of Vermont and New York. Indeed, as the scheme of the French Government was to unite their possessions in Louisiana with those on the St. Lawrence, and as the intermediate country, comprising portions of the States of New York, Pennsylvania and other States created since the declaration of American Independence, was perpetually the theatre of the struggles between the French and English colonists, it would be extremely difficult to assign the boundary of the French territory:—their ambition had none, and evidences are frequently discovered of the vastness of their plan of occupation.

At the time of the conquest of Canada in 1759, the country possessed by France was comprised within comparatively narrow limits. Still, however, they were more extensive than the present limits of Canada, for when in July of that year General Amherst took Forts Ticonderoga and Crown Point on Lake Champlain; he strongly fortified the latter, designing it "as a future bulwark to the British territory in the event of

the French dominion in Canada being protracted." At that time the French had the command of Lake Champlain by the possession of Isle aux Noix.

In September, 1759, Quebec capitulated to the English forces; and in the following spring the whole of Canada fell into the hands of the British. In 1763 Canada was formally ceded to the British Crown by the treaty of Paris; and in the autumn of the same year a royal proclamation was issued erecting the Province of Quebec into a separate government.

The species of government thus created was what is called a royal government, consisting of the governor, assisted by a council, over which the people had no control. They were, however, promised a Representative Assembly in the following words:—

"We have thought fit to publish and declare, by this our proclamation, that we have in the letters patent under our great seal of Great Britain by which the said governments are constituted, given express power and direction to our governors of our said colonies respectively, that so soon as the state and circumstances of our said colonies will admit thereof, they shall, with the advice and consent of the members of our council, summon and call General Assemblies within the said Governments respectively, in such manner and form as is used and directed in those colonies and provinces in America which are under our immediate Government."

The proclamation then proceeds to authorise the establishment of the civil governments; clothing the governors and council with powers of legislation, and enjoining them in the making of laws to conform "as near as may be agreeable to the laws of England." The governors were also to establish courts of justice "as near as agreeable" to the same laws, with right of appeal to the Privy Council.

As a means of encouraging settlement in the country, a graduated scale of military grants of land was promulgated from 5000 acres to a field officer, down to 50 acres for a private; and as nearly all offices under the crown were filled up by "his majesty's ancient subjects," his majesty's new subjects being almost wholly excluded, Canada, under the operation of these two inducements, gained a considerable accession of population.

In accordance with the proclamation General Murray issued an ordinance, establishing courts of justice, where matters in dispute were to be determined according to the laws of England. This "filled the poor Canadians with grief and amazement. They saw themselves bereft of their own laws and customs, and an unknown system of jurisprudence established in their room. They were utter strangers to the language in which their new laws were written, and they had no idea of the usages by which they were to govern themselves, in cases where the written laws gave no directions. But as they were accustomed to submit to

authority they restrained their murmurs and waited the event with patience, though not without great anxiety.*

This was, undoubtedly, the first cause of discontent among the Canadian people, and it was followed by other measures, which tended to produce that want of confidence and sympathy between the governors and the governed which has been so conspicuous in the history of Canada. In addition to other causes of discontent, all judicial proceedings were in the English language, of which the people were ignorant.

Against this state of the law the people continued to remonstrate, and at length with partial success. In 1774, the Quebec act was passed by which the civil law of Canada was restored: but as the people had become habituated to the English criminal law, that part was retained. Under this act the province of Quebec continued to be governed, until the Constitutional Act of 1791 came into operation.

In accounting for the acquiescence of the British Parliament in the desires of the Canadians for the restoration of their ancient customary law, we must not lose sight of the state of the American colonies. They were then in a state of actual rebellion, and the policy of the British Parliament clearly was to propitiate the Canadians, and to establish a system of law and government as dissimilar to what prevailed in the other colonies as possible. It should be observed, that some discontent prevailed in consequence of the omission of a representative assembly, as promised in the proclamation of 1763, and the revolted colonies speculating on the effects of this omission, endeavoured to excite the discontent of the people of Canada.

An address was issued by the revolted colonies and extensively circulated, setting forth the right of the Canadians to a representative government the instant they became British subjects, the more especially as that right was guaranteed to them by the proclamation of 1763. But loyalty was a habit with the Canadians, and although they had so recently become British subjects they resisted all solicitations to join in the general rebellion. The Quebec act was afterwards set forth among the grievances cited as a justification of the American declaration of independence.

The effect of the American revolution was important as regards the political state of Canada. The American loyalists, composed, in a great measure, of those who held office in the old colonies, and whose conduct had, no doubt, contributed to the discontent which prevailed, poured into Canada and the remaining colonies. As a reward for their adherence to the governing party, in a struggle which they themselves had partly created, and which had been continued really for their benefit, the chief offices in Canada were conferred upon them, and it is not too much to say, that their policy in both Canadas has produced much of the discontent which recently prevailed. Many of these persons obtained

* Pamphlet entitled *Justice and Policy of the Quebec Act, 1774.*

s in the legislative council of Quebec, and to this day their political power, though attacked by succeeding governors, and even by the imperial legislature, remains, to a certain extent, unbroken.

After the peace with the United States in 1783, the efforts of the inhabitants of Quebec to obtain a representative assembly were renewed, as it became the policy of the government to conciliate the people of Canada, both British and French, their efforts were crowned with success. The Constitutional Act of 1791 was passed, which divided the province of Quebec into the two provinces of Upper and Lower Canada, and gave each province a local legislature, consisting of an elective assembly, and a council of members appointed by the crown for life. This Constitution, though considered a perfect pattern of the British Constitution, did not work well,—a circumstance which may be easily explained.

In England, though the House of Commons is called by Blackstone the democratic branch of the legislature, it is really a copy of most aristocratic constitution. Formerly, indeed, it was for the most part nominated by the members of the upper house, and latterly, though elected by a larger constituency, it still represents a comparatively small section of the people, and therefore is still essentially aristocratic. It is therefore not at all surprising that there should be a very harmonious agreement between the two branches of the British legislature.

With regard to Canada, however, the case was very different. The assemblies were really elected by the people; for although the franchise was enjoyed by the freeholders only, yet so universal was the practice of acquiring land, that it included nearly every male inhabitant of full age.

The councils, on the other hand, were composed of an exclusive class separated from the people, consisting of office holders, and a few wealthy merchants and landowners.

We do not state a disputed fact when we say that these two bodies, in Lower Canada, especially, never did harmonize. Nearly every measure originated by the assembly was rejected by the legislative council, and as the executive council—a sort of privy council to advise the governor,—was for a long time composed of legislative councillors and office holders, the assembly always attributed the want of good feeling, on the part of the government, to the evil counsels of this body; and even Lord Stanley, in 1828, when in opposition, applied to them the remarkable expression of an impotent screen between the government and the people. The whole of the animosity of the assembly and of their friends in this country was accordingly directed against the very Constitution, and in their petitions they prayed that the legislative council, as at present (1834) constituted, be abolished, and that the people be permitted to elect the members of the legislative council in future as the only means of securing that harmony between the two branches of the legislature, without which good government cannot exist. (Petition of 1834.)

At the elections which took place in both provinces in 1834, an elective council became the rallying cry of the democratic party, and so

very naturally look to the United States, where the land is sold—not given away—and where, besides partly providing for education in the newly created states, it has gone far to supersede taxation by the general government. The assembly of Canada have always made this a principal grievance, and the official party have as naturally resisted the abolition of so profitable an abuse.

In a return laid before the House of Commons there is a sample of this species of jobbing in the case of Mr. Felton, who was afterwards dismissed from some office which he held connected with the administration of the lands in Lower Canada. Mr. Felton is down for 14,141 acres, and his eight children for 1,200 acres each, making in round numbers 24,000 acres to one man alone, for no service or consideration.*

The Assembly contended that the appropriation of the revenues and of the land fund, without their consent, rendered the Constitution of 1791 a complete mockery, and utterly deprived them of the only means of forcing reforms upon the executive.

Such, then, was the state of politics in Lower Canada in 1836-7. The Assembly had persisted in refusing supplies without some guarantee for a redress of grievances; the executive had systematically appropriated the revenues, as if no commons' house existed. It became evident that this state of things could not much longer exist. A Commission had been sent out to Canada, consisting of Lord Gosford, Sir George Gipps, and Sir Charles Grey, but they did not materially alter the posture of affairs. Indeed, as a somewhat inopportune disclosure of Sir Francis Head exposed something very like a want of good faith on the part of the Governor, they may be said to have rather damaged the relations between the Government and the Assembly.

In the session of 1837, ten resolutions were passed by the House of Commons, which virtually took away the functions of the Assembly, by authorising the Governor to appropriate the public funds to the payment of arrears. These resolutions created great discontent. Meetings were held all over the country, at which resolutions were passed to consume no duty-paying articles, and so to destroy or impair the revenue of the control of which the Assembly was deprived. On the other hand, political clubs were organized by the party attached to the executive, who met for the purpose of training. The popular party followed their example, and in November, 1837, the two clubs came into collision in the streets of Montreal. Warrants were now issued for the apprehension of the leading politicians on the popular side, some of whom escaped, whilst others were thrown into gaol. The people of two districts, Chambly and Grand Brulé, where some of these leaders resided, rose and resisted the warrants, and at first successfully; but at length a considerable force was first sent against the former district, and afterwards against the latter. The ill-armed peasantry were of course subdued, and subjected to all the horrors of war. At St. Eustache some

* See also Lord Durham's Report, p. 78, &c.

hundreds were burned to death in a church, the villages were pillaged, and the people, even after they had submitted and prayed for quarter, were treated with the utmost rigour.

In Upper Canada also, insurrections took place in various parts of the colony; but they were easily subdued, and for some time tranquillity has been completely restored. In the upper province the remedy for reform which the people have chiefly affected, differs from that to which the people of Lower Canada were attached. In Lower Canada, as we have seen, an elective second chamber was the remedy sought for by the Assembly and the people. In Upper Canada the same remedy was advocated in 1834; but subsequently a more moderate body of reformers proposed a responsible administration, similar to the British Ministry, and dependent for office on their ability to secure a working majority in the Assembly. It is not for us to discuss the respective merits of these two schemes; our business is merely to state their existence, and to add, that Lord Durham, late Governor-General of the North American Provinces, favoured the scheme of a responsible executive; indeed it was the basis of his proposal for responsible government for the colonies. Nova Scotia and New Brunswick have taken up the plan, and it seems likely that it may soon constitute a very general demand.

A consequence of the insurrection of Lower Canada was, the repeal, or rather suspension, of the Constitutional Act. Tranquillity, however, having been restored, a constitution has been restored to Canada, but with very important changes. The two provinces are re-united, and a joint Assembly will shortly be chosen.

The object of this Act* is to get rid of a French majority, and with it to extinguish the democratic spirit, under the impression that it resides in the French portion of the population. The population of the Canadas must now be nearly 1,200,000; of which, perhaps, half, or rather less, are of French origin. In Lower Canada alone they were an overwhelming majority, but in the two provinces they are a minority.

The opinion that the quarrel has from first to last been a French and English quarrel, as it is assumed to be in Lord Durham's Report, is erroneous. In a state of civil war it would naturally assume that character, but up to 1835 it certainly had not a national character. The elections—the best test of public opinion—turned really on the democratic principle; and there seems no reason to doubt that this will again be the case. This, however, can only be determined by experience. The new constitution is now under trial; but, if it be not accompanied by justice to the great body of the people, it is idle to suppose that it will suppress discontent. Indeed, by creating a firm union of the representative democracy of the two Canadas, it may probably lead to consequences very different from what are anticipated by the framers of the new constitution.

* 3 and 4 Vic. c. 35, "An Act to re-unite the provinces of Upper and Lower Canada, and for the government of Canada." [23rd July, 1840.]

GENERAL VIEW OF SOUTH AMERICA.

1. *Situation, Area, and Population.* 2. *General view: Andes; Parime Mountains; Brazilian Mountains; Plains of the Orinoco and Amazonas; Central Longitudinal Plain; Pampas; Patagonian Plains.* 3. *The Andes. General view and division* 4. *The Southern Andes. The Patagonian Andes.* 5. *The Chilian Andes.* 6. *The Central Andes. The Andes of the Despoblado.* 7. *The Bolivian Andes. Valley and Lake of Titicaca. Desaguadero.* 8. *The Peruvian Andes. Mountain-knot of Pasco. Ucayali River. Marañon. Huallaga.* 9. *The Northern Andes. The Equatorial Andes.* 10. *The Andes of New Granada. The Rivers Cauca and Magdalena. The Lake of Maracaybo. The Sierra Nevada de Sta. Marta.* 11. *The Mountains of Venezuela.* 12. *The Mountains of Parime. The Rivers Essequibo, Demarara, Berbice, Corentyn, Surinam, Marony and Rio Branco.* 13. *The Plains of the Rio Orinoco. The River Orinoco and its affluents. The Llanos and the Wooded Plains.* 14. *The Plains of the Rio Amazonas. The Rio Amazonas* 15. *The Northern Plains and the Northern affluents of the Rio Amazonas.* 16. *The Southern Plains. The Islands of Marajo, Paricatiba and Tupinambaranas.* 17. *The Mountain-system of Brazil. The Mountainous Region. The Campos Parecis.* 18. *The Hilly Region. The Rivers S. Francisco, Tocantins, Xingu, and Tapajos.* 19. *The Northern Region. The Plain of the Parnahyba. The River Parnahyba.* 20. *The Plain of the Rio Paraná. The upper course of the Rio Paraná and its affluents.* 21. *The Southern Region of the Brazilian Mountains. The Rio Uruguay.* 22. *The Central Longitudinal Plain. The Plains of Moros, Chiquitos, and the Gran Chaco. The Rivers Madeira, Paraguay, and their affluents.* 23. *The Plains of the Pampas. The Rio Salado and Rio Dolce. The Plain of Tucuman. Las Salinas. Sierra de Cordova.* 24. *The Plains, properly called the Pampas. The lower course of the Rio Paraná. The Rio de la Plata.* 25. *The Saline Swamps, and the country, called Cuyo. Its singular system of water-courses. The Rio Cobu Leubu, or Colorado.* 26. *The Patagonian Plains. The Cusu Leubu, or Rio Negro. The Rio de S. Cruz.* 27. *The Antarctic Archipelago. The Strait of Magalhaens. The Tierra del Fuego. The Islands along the Western coast of South America. The Falkland Islands.*

1. THE most northern point of South America is Punta Gallinas, 12° 30' N. lat., and the most southern, Cape Horn, is in 56° S. lat. South

America is 4500 miles in length. The most eastern point is Cape Branco, 35° W. long., and the most western Punta de Parí, 68° W. long. The greatest width is above 3230 miles. The surface is estimated at between 6 and 7 millions of square miles, or nearly double the surface of Europe, which is 3,600,000 square miles. According to a rough estimate, about $\frac{1}{4}$ ths of the surface are situated between the tropics in the torrid zone, and the remainder in the temperate zone. The population is about 12,000,000, in which amount, however, the numerous Indians are not included: these tribes may perhaps contain about 2,000,000 individuals.

2. South America constitutes one continuous and extensive land, which is not broken or intersected by large bays; in this respect it resembles Africa, and like Africa the interior of this country would be difficult of access, if it were not for the peculiarities of the configuration of its surface. The mountainous and elevated tracts in South America are not as in Asia and Africa in the middle of the continent; but they extend lengthways from north to south along the border of the oceans and the intervening space is occupied by a wide, low, and level plain, which reaches from one extremity of the continent to the other.

This extensive Plain is separated from the Pacific by an elevated and continuous system of mountains, which begins on the south at the Strait of Magalhaens 54° S. lat., and terminates on the Isthmus of Panama 30° N. lat. This mountain-system is called the Andes, and its lower declivities terminate on the shores of the Pacific ocean. These mountains extend in one continuous mass, and are nowhere interrupted by such a depression as allows an easy access into the interior from the side of the Pacific. The most eastern branch of the Andes extends as far north as 9° N. lat., terminating on the east of the Lake Maracaybo, where it is united to a lower range of mountains, which run eastward from that place along the Caribbean Sea, and terminate opposite the Island of Trinidad in the Punta de la Peña. This lower range is called the Mountains of Venezuela.

The elevated countries extending along the Atlantic Ocean, which washes the eastern shores of South America, do not constitute one continuous mass of high land, but three wide openings occur in this mountain mass by which the waters find their way from the interior of the continent to the Atlantic. The most northern opening occurs between 8° and 10° N. lat., and extends along the meridian of 63° W. long. for about 150 miles; but on the coast it occupies 300 miles, between $59^{\circ} 30'$ and 63° W. long. This opening is almost entirely occupied by the numerous mouths of the river Orinoco. The second opening is traversed nearly in its middle by the Equator, and extends two degrees on each side of it; this opening is above 300 miles wide, and constitutes the outlet of the largest river in the world,—the Rio Amazonas. The southern opening occurs at 35° S. lat., and is occupied by a wide

ary, called the Rio de la Plata, the receptacle of a great number of
rs. On the north of this estuary terminates the elevated country
ch extends along the Atlantic ocean; south of the estuary com-
ce those wide plains which stretch to the foot of the Andes, and to
Strait of Magalhaens.

he elevated country between the mouths of the Orinoco and Amazo-
rivers, is called the Parime Mountains, and that which lies between
mouths of the Amazonas and La Plata Rivers, is the Mountain-
em of Brazil.

he most northern portion of the plain which traverses the whole
tinent, is called the Plain of the Orinoco, the water collected in it
g carried by that river to the ocean. It extends from the Mountains
Venezuela, which lie north of it, to 2° N. lat., and from the Andes on
west to the Parime Mountains on the east. South of the plain of
Orinoco, is the Plain of the Amazonas River, which extends from the
of the Andes on the west to the shores of the Atlantic, and south-
d to between 8° and 10° S. lat., in the western districts; but it
ws much narrower towards the Atlantic Ocean. Between 8° and 10°
lat., begins the Central Longitudinal plain of South America, which
ends from 8° to 28° S. lat., between the Andes and the Mountain-
tem of Brazil. The Plains of the Pampas, which follow next in order
we advance to the south, reach to between 39° and 41° S. lat., and they
succeeded by the Plains of Patagonia, which terminate on the shores of
Strait of Magalhaens. This strait separates the greatest part of the
arctic Archipelago from the mainland of South America.

The following rough estimate of the area of these divisions, shows the
ge scale on which the natural features of this continent are formed:—

	Square Miles.
1. The Andes, including both the country between them and the Pacific and the Mountains of Venezuela, occupy	1,400,000
2. The Mountains of Parime	400,000
3. The Mountain System of Brazil	1,600,000
4. The Plain of the Orinoco	160,000
5. The Plain of the Amazonas	1,850,000
6. The Central Longitudinal Plain	450,000
7. The Plains of the Pampas	260,000
8. The Plains of Patagonia	240,000
9. The Antarctic Archipelago, including the Falk- land Islands.	40,000
	<hr/> 6,400,000

THE ANDES.

3. *General View and Divisions.* The Mountains which form Cape
Froward in the Strait of Magalhaens are the southern extremity of

28° and 5° S. lat. they may be on an average between 5° S. lat. and 2° N. lat. the range is about 150 miles; and at 2° N. lat. it divides into two, which the eastern terminates with the Paramo western where the small river Napipi falls into the N. lat.: these two great branches are more than each other at their termination.

The mountains from Cape Froward to 28° Southern Andes; between 28° and 5° S. lat., and between 5° S. lat. and their termination, the Northern Andes.

The high mountains do not reach the shore south of 42° S. lat. North of that parallel, a strait from 20 to 100 miles in width, lies between the Andes and the sea. As this lower tract is not a level country, but the foot of the mountains to the sea with a peninsula with a bold, rocky and high coast, it is the lower slope of the Andes.

4. The *Southern Andes* are divided into the 54° to 42° S. lat., and the *Chilian Andes* from 42° to 34° S. lat.

The *Patagonian Andes* rise abruptly from the Pacific, to the height of from 2000 to 9000 feet and are always covered with snow. In front of the Andes a number of large islands, forming an extensive archipelago, high rocks which form the range are indented by bays and inlets, which generally penetrate 20 or 30 miles into the land. Two of these inlets intersect the whole range, and form large lakes on the Patagonian Plain, which extends to the south.

of narrow inlets: it is called Ancon sin Salida. By these two deep bays, two peninsulas are formed, of which the southern is called Brunswick Peninsula, and the northern King William's Land. The eastern side of these peninsulas belongs to the plains of Patagonia, as the mountainous country extends only to a line drawn from Freshwater Bay on the north to Magalhaens to the eastern extremity of Skyring Water, and thence to Obstruction Sound, the most southern inlet of the Ancon sin Salida. The Ancon sin Salida (Bay without inlet), may properly be considered as forming the southern limit of the Andes; for to the north the mountain masses are never interrupted.

The Patagonian Andes are the narrowest portion of the whole mountain system; they perhaps occupy an average width of not more than ten miles. No volcanos have been observed in the southern part of the range, though lava and other volcanic products occur frequently; between 44° and 42° S. lat. there are four active volcanos. The western and steeper declivities of the mountains are covered with thick forests, except on the open sea, where they consist of bare rocks. This western declivity is exposed to frequent and heavy rains, brought from the Pacific by western or south-western winds. The eastern declivity of the mountains has little wood, and the trees are low. Rain is scarce, and the higher parts of the mountains are in many places covered with snow. The plain, on which the eastern declivity of these Andes rests, probably attains an elevation of about 2000 feet above the sea-level.

The *Chilian Andes* do not reach the shores of the Pacific. At 42° S. lat. begins the lower tract, which extends northward along the base of the mountains to their termination in the Isthmus of Panamá. The Chilian Andes attain an elevation of more than 12,000 feet; and only one of the ten passes which traverse the range sinks below that elevation. The most frequented of these passes is that of Uspallata, which traverses the range near 33° S. lat., and attains an elevation of about 12,500 feet. The peaks which are numerous in this range rise 10 or 4000 feet higher, and many of them are volcanos. The best known of these high summits, proceeding from the south to the north, are the volcano of Villa Rica, or Cerro Imperial (near 39° S. lat.), the volcano of Antuco (north of 37° S. lat.), the volcano of Chilian (near 36° S. lat.), the Descabezado Peak, $36^{\circ} 40'$ S. lat., the volcano of Parícuta (north of 35° S. lat.), the volcano of Maypú or Penquenes (north of 34° S. lat.), the Peak of Tupungato, and the volcano of Encagua (near 33° S. lat.). The last-mentioned peak is 23,200 feet above the level of the sea: it is the highest volcano in the world; and the third mountain in elevation among the Andes, being only inferior to the Nevados of Sorata and Illimani.

The width of the Chilian Andes is various. South of 37° S. lat. they appear to constitute a single range about 40 or 50 miles wide, but north of that parallel they are composed of two elevated ranges, which include

valleys, and are frequently connected with one another by ridges. The valleys in the southern parts are narrow; but at 34° S. lat. they grow wider. The first valley in this part is Tunuyan, which is about 20 miles wide, 40 long, and 7500 ft. above the level of the sea. It is drained by the river of the same name which passes by an opening through the mountains on the eastern side of the valley, and descends to the plains of the Pampas. A pass over this eastern range is 14,365 feet high, and another transverse western range is 13,210 feet above the level of the sea. The Valley of Tunuyan is the Valley of Uspallata, between 33° and 34° S. lat.; it extends 200 miles in length, with an average width of 25 miles. The level part of the valley itself is somewhat irregular, and is 6000 feet above the sea level. The eastern range, called the Cordillera of Uspallata, is only from 2000 to 3000 feet above the valley, and is 20 miles wide. The western or principal range contains the Cordillera de Aconcagua and the Pass of Uspallata: it is more than 80 miles long. The highest ground in the Valley of Uspallata is near 32° S. lat., where two rivers descend into the valley; that which runs southwards is called Rio de Mendoza, and that which flows northwards is the Rio de San Juan: both rivers pass through the Cordillera de Uspallata, and descend into the plains of the Pampas. The Valley of Uspallata is level, and only hilly towards the two mountain ranges which bound it; the surface is covered with arid sand, and it is almost without vegetation; it is destitute of trees and produces only a coarse grass. In the plain is covered with a saline efflorescence.

North of the valley of Uspallata the Chilean Andes are divided into three ranges: the eastern is called Sierra Velasco, that in the middle is the Sierra de Famatina, and the western preserves the name of the Cordillera de Uspallata. The eastern valley, which is included by these parallel ridges, is the Vale of Famatina, and the western that of Guandacol. The valleys are about 25 miles wide, and the ranges are said to occupy 30 miles each in width, but that of the Andes seems to be much narrower; consequently this part of the Andes, the valleys being included, is only 150 miles across. The mountains probably attain an elevation of 12,000 feet; but they are not always covered with snow, the Nevado or Snow Mountain, which occurs in the Sierra de Famatina, almost in the middle of the range, near 29° S. lat. The elevation of the valleys is not known, but probably it is hardly above 3000 feet. The cultivation is limited to the raising of the grains of northern Europe; there are fine vineyards and fruit-trees. The mountains are without trees, and the coarse grass upon them supplies pasture for guanaco and vicuñas. The Sierra de Famatina contains mines of silver.

The Chilean Andes descend with a steep declivity towards the north, which borders on the Pacific. This declivity is almost entire

lofty forest-trees in the southern districts, but farther to the north it becomes barer, until the woods are confined to the narrow valleys by which the slope is intersected. The base of the mountains on this side may be between 2000 and 3000 feet above the level of the sea. The distance between the range and the Pacific is on an average 60 miles; but between 36° and 38° S. lat. it is more than 100 miles across; it is in this latitude that the Andes are furthest from the Pacific. Along the mountains there are plains of moderate extent, separated from each other by low ranges of hills. These hills are generally covered with low trees, but the plains are destitute of wood, except along the rivers, where fine forests occur south of 35° . Some of the plains are well watered, and covered with a fine turf: others have a dry and stony surface; and a few consist of sand, and are without water or vegetation. These plains generally occupy more than half the country between the mountains and the sea, and are separated from the latter by a hilly country, the elevations of which rise 500 or 1500 feet above their base, and terminate on the sea in a shore which is about 100 feet above the beach. The hills are generally wooded, but the trees are low, except in the southern parts, where they attain a great height. The climate of this region is very moderate; snow and ice occur only in the elevated valleys, and on the mountains. The rainy season occurs between May and August; the quantity of rain which falls is much greater in the southern than in the northern districts; the number of rainy days in the former being, on an average forty, while north of 34° S. lat. only fourteen usually occur, and seldom more than twenty throughout the year. But this rain is very heavy, and sometimes falls for three days continually. No rain falls in the northern districts from September to May, and in the southern from November to April. The rain in the southern districts is sufficient to produce rich crops of wheat and other grains without irrigation; but in the northern districts the ground can only be cultivated where it is irrigated. During eight or nine months the wind blows from the south, and frequently with great force, especially from February to April. As this part of the Andes recedes farther from the sea than any other, the country is drained by rivers of some extent: the largest is the Biobio, which falls into the Pacific north of 37° S. lat. It runs about 150 miles, and is navigable for canoes and craft as far as Nacimiento, 60 miles from its mouth, which is two miles wide, but too shallow for large vessels. The Rio Maule enters the sea about $35^{\circ} 20'$ S. lat., after a course of more than 100 miles. At high tides vessels not drawing more than 10 feet water may enter the mouth and proceed some distance upwards; flat river barges may ascend it at any season for 20 miles. The Rio Mapu enters the sea in $33^{\circ} 40'$ S. lat., after a course of about 100 miles. It is not navigable, but the waters are abundantly used to irrigate the contiguous country.

Between 33° and 32° S. lat., two low ridges run from the Andes

towards the coast. The southern is called *Cuesta* (Ridge) *de Chacabessa*, and towards its termination on the west, *Cuesta de Chacabessa*, which crosses the last-mentioned chain, rises nearly 3000 feet above the sea. The northern ridge is called the *Cuesta de los Hornos*. The valley, which is included between these two ranges, and the *Rio Aconcagua*, contains much level land, and is well cultivated by means of irrigation.

The country between the Andes and the Pacific, from 30° to 35° S. lat., contains no plains, but descends from the base of the Andes, this part may be about 5000 feet above the level of the sea, hacked ridges, frequently forming extensive levels, which are short terrace-like descents. The ridges run east and west and are separated from one another by deep and narrow valleys, in which flow that have very little water. The soil of the ranges generally consists of sand, or of bare rocks, and produces little except some species of cactus; a few spots are clothed with stunted trees. Several tracts of some extent, bordering on the rivers in the valleys, where they can be irrigated; the quantity of rain which falls is small, and the climate is hot, but dry and very healthy. This district contains many rich mines of silver and copper.

The country, along the foot of the Chilean Andes, is more subject to earthquakes than any other in the globe. In the northern districts shocks are felt almost every day, and occasionally several times a day. The town of Concepcion has been several times entirely destroyed by earthquakes. In 1822 the rocks enclosing the harbour of Valparaiso, which is some miles north of the mouth of the *Rio Aconcagua*, raised by an earthquake 4 or 5 feet above their former level. The harbour, which hitherto admitted small vessels, was thus rendered entirely useless. The island of Santa Maria, which is situated 10 miles south of the mouth of the *Rio Biobio*, was raised in the year 1822 at its southern extremity 8 feet, in the middle 9, and at the north end above 10 feet higher than its former level.

6. The *Central Andes*, which extend from 28° to 5° S. lat., are divided into three parts, of which the most southern between 5° and 14° S. lat. is called the Andes of the *Despoblado*, the central portion between 14° and 24° S. lat., the Bolivian Andes, and the Northern between 24° and 28° S. lat., the Peruvian Andes.

North of 28° S. lat. the mountain mass of the Andes increases in width, and at 24° S. lat. it occupies the whole space between 60° and 70° W. long., an extent of more than 400 miles in width. This part is called the *Andes of Despoblado*, from the most remarkable peak which occupies nearly its centre. A line drawn from the peak of *Parícuti* to the parallel of 28° S. lat. intersects the Andes to a place called *Vermejo*, a short distance below the junction of its principal branches, the *Rio Lavayen* and the *Rio Tarija*, may be considered as c

south-eastern boundary of these Andes. The northern border is marked by the Alturas de Lipez, which are connected with the principal range of the Andes near 22° S. lat., and extend in an east-north-eastern direction to the Cerro Chorolque; from this point the line continues in an eastern direction to the confluence of the rivers Pilaya and Pilcomayo, where it terminates. A line drawn from the confluence of the last mentioned rivers, to that of the Rio Tarija and Lavayen, is its eastern boundary.

The portion of the Andes, enclosed by these lines, and by the principal range of the mountain system, does not contain the highest summits of the whole, but it contains the greatest extent of elevated land: the whole may be considered one mass of rock, which perhaps is not more than from 2000 to 3000 feet below the snow-line, and is only furrowed by extensive valleys, of which one runs parallel to, and not far from, the south-eastern boundary, and is watered by the Guachipas, the principal branch of the Rio Salado, and by the Lavayen; the other runs north and south near 65° W. long., and is chiefly drained by the Rio de Guay, an affluent of the Lavayen. In all this extent the principal chain of the Andes does not contain one snow-capped summit. It seems therefore not to constitute a range, but only the steep western declivity of the whole mountain-mass. It is farther worth remarking, that between 30° and 23° S. lat. no volcano occurs, which is perhaps the reason why earthquakes are more frequent at the base of the Andes of the Poblado than in any other part of America.

By the two valleys just mentioned the mountain-mass is separated into three portions. The most southern, which is divided from the others by the valley in which the rivers Guachipas and Lavayen run, has the form of a range running north-east and south-west, and is interrupted nearly in the middle by a deep depression through which the Salado passes from the mountain-region. That portion of the chain, which lies between the Rio Salado and the Rio Vermejo, is called Sierra Lumbré or Sierra Sta Barbara, and probably does not rise above 10,000 feet. The western portion which extends along the southern banks of the Rio Guachipas to the principal chain of the Andes, is called Sierra Aconquija, though this name properly belongs to the western part of it, which rises above the snow-line; the eastern part of this Sierra probably does not much exceed 8000 feet. The valley, drained by the river Guachipas, may be about 240 miles long, and is at a considerable elevation above the sea-level, so that the plants which require a warm climate do not succeed, and only wheat, maize, and cotton are grown; there are also extensive vineyards, and much wine is exported, though of inferior quality. The declivities of the adjacent mountains have excellent pasture grounds, from which mules are exported. The valley of the Lavayen, which extends about 140 miles, is much less elevated, and the climate is favourable to tropical vegetation. The common productions are those of hot countries, yams, mandioca, rice, Indian corn, &c.; the tree from which the

maté (Paraguay tea) is procured, is indigenous, and in some parts the coca (*Erythroxylon Peruvianum*) is cultivated with success.

North of the valley of the Guachipas, lies the desolate region called El Despoblado, or the uninhabited country, on account of its scanty population. It extends northwards to the Alturas de Lipez and the Cerro Chorolque, and covers an area of more than 50,000 square miles, or a space equal to the area of England. As the climate is too cold for any kind of cultivation, it may be supposed that it is 13,000 or 14,000 feet above the sea. The number of inhabited places is very small, and each consists of only a few huts. The inhabitants gain their subsistence by collecting small quantities of gold, which are found in the alluvial deposits after heavy rains. They bring also to the valleys a great quantity of salt from the Salinas de Casabindo, where the salt crystallizes on extensive plains during dry weather. They also hunt guanacocs, vicuñas, alpacas, and chinchillas, which are numerous in this mountain-region. The southern portion of the Despoblado is drained by a small river called Burros, which is lost in a lake; the northern portion is drained by the Rio San Juan, an affluent of the Pilaya.

The valley, which borders on the eastern edge of the Despoblado, is traversed by the road that leads from Buenos Ayres to Bolivia. From the town of Salta, at its southern extremity, to La Cueva, a small place near 22° 20' S. lat., it extends nearly 300 miles; the width frequently does not exceed a furlong, though occasionally it widens to a mile and more, especially at the town of Jujuy. Towards the south the valley is low, but towards the north it rises to a great elevation above the sea-level. This valley does not entirely traverse the whole mountain-pass, but terminates at its northern extremity at the Abra de Cortaderas, a mountain-tract about 30 or 40 miles wide, by which the Despoblado is united to the elevated table-land of Yavi. The Abra de Cortaderas attains an elevation of more than 12,000 feet above the sea-level: its surface, which is rocky and extremely rugged, consists of a succession of steep ascents and descents.

The table-land of Yavi appears to extend over the whole space between the Rio Pilcomayo on the north, and the valley of the Rio Lavayen on the south, and to cover a surface of about 30,000 square miles. Its general elevation is probably not much lower than that of the Despoblado; it rises, at least, above the region of trees, and is only covered with scanty grass and low bushes. On its summit the cold is excessive when the sun is in the northern hemisphere; and it is nearly uninhabited, with the exception of some fine valleys which intersect the eastern edge and sink deep below the plain. Among these valleys the most extensive is that of Tarija. These valleys are very fertile. The mountains which enclose them are thickly wooded with various kinds of timber, and the valleys themselves are well cultivated, and produce sugarcane, rice, maize, tobacco, and cotton in abundance, but they are generally

too warm for wheat. In some districts there are fine pastures for cattle.

Many rivers which water the Central Longitudinal plain of South America, or that of the Pampas, have their origin in this mountain region. The most considerable are the Pilcomayo, the Vermejo, Salado, and Rio Dolce.

In the country between the Andes of the Despoblado and the Pacific, a drop of rain never falls, and the air is only refreshed occasionally by mists and dews. This country is accordingly condemned to eternal sterility. Between 28° and 29° S. lat. there is still a small river, that of Copiapó, which, however, does not generally reach the sea, as it runs through a sandy soil, and the waters are used for irrigating some level spots in the river-valley. The uplands which enclose the narrow valley descend in terraces from the Andes to the sea, where they terminate in a high and rocky shore. The scanty vegetation of these uplands consists of several kinds of cactus and thorny trees of stunted growth. The want of water is general; and large parts of the surface are covered with a salt efflorescence. Scanty as the vegetation of this southern district is, it disappears entirely north of 27° S. lat., and is only revived near 23° S. lat. The intermediate country, called the Desert of Atacama, is entirely covered with hills of loose sand or bare rocks. It is only in a few spots, not far from the base of the Andes, that scanty springs appear, and at these places there is a little vegetation, but the water is soon absorbed by the sand. These isolated spots contain the only habitations that occur in this country. This is the most sterile part of the western coast of South America; and this sterility is probably owing to the mountain summits of the Andes not attaining a sufficient elevation to be always, or for a great part of the year, covered with snow.

7. *The Bolivian Andes* extend from the Alturas de Lipez to the Cordillera de Vilcanota. At the place where the Alturas de Lipez break off, the Andes somewhat change their direction. From their southern extremity to 22° S. lat., the range runs nearly south and north; but farther north it declines to the west-north-west, and continues in that direction to the place where the transverse chain of the Cordillera de Vilcanota occurs (15° S. lat.) This part of the Andes contains the highest summits in the whole system, a great number of which are always covered with snow. Between 22° and 20° S. lat., there are several snow-covered summits, and two or three volcanos; but their elevation has not been ascertained. From the eastern declivity a chain branches off to the east, which fills up the space between the Alturas de Lipez and the mountain-knot of Porco. The valley lying between this range and the Alturas de Lipez, which is called the Valley of St. Christobal, is pretty well cultivated, and produces the grains of Europe in abundance. It is not much more than 6000 or 7000 feet above the sea; but the space between the range north of that valley and the moun-

tain-knot of Porco is a mountain-desert, and probably attains a much greater elevation.

At the mountain-knot of Porco (20° S. lat.), the Andes divide into two ranges, which run nearly parallel to one another, to 14° S. lat. Although the snow-line in this part is at a higher elevation than in any other part of the Andes (17,000 feet above the sea level), a considerable number of summits rise above it. In the western range the highest summits are the volcano of Gualatieri, 22,000 feet high, near $19^{\circ} 20'$ S. lat., and the Chuquibamba 21,000 feet above the sea level, near 15° S. lat. In the eastern range is the Cerro de Potosi, famous for the great quantity of silver which has been extracted from it, which, however, attains only 16,040 feet. From this mountain, which is near 20° S. lat., no snow-covered summit occurs in the eastern range up to $16^{\circ} 40'$ S. lat.; but in this parallel stands the Nevado of Illimani, which rises to 24,200 feet. It is separated by a deep valley from the Nevado Tres Cruces; and from the last-mentioned high summit ($16^{\circ} 35'$ S. lat.), an almost uninterrupted series of snowy peaks extends north-north-west to the Cordillera of Vilcanota, 14° S. lat., and even to $13^{\circ} 10'$, where they terminate with the Nevado of Salcantahi. The highest summit in this range, the Nevado de Sorata, is also the highest summit in the Andes, and attains an elevation of 25,250 feet; it rises more than 8000 feet above the snow-line.

The Cordillera of Vilcanota, running west-south-west and east-north-east, between 14° and 15° S. lat., forms the link by which the two ranges of the Bolivian Andes are united on the north. A part of this range also is always covered with snow. The two ranges of these Andes and the valley which they include, occupy an average width of 230 miles.

The valley which is enclosed between these two ranges is called the Valley of Titicaca, from an extensive lake of that name, which occupies its most northern part. This lake covers a surface of about 4000 square miles, and from its southern extremity issues a river called Rio Desaguadero, which runs south-south-east, traversing the valley in its length. Its course is gentle, and it is lost in some swamps and lakes, near 19° S. lat. The Lake of Titicaca is 12,795 feet above the sea-level; and the valley, on an average, 13,000 feet. The length of the valley is about 300 miles; its width varies between 30 and 60 miles. It covers a surface of 16,000 square miles, or two-thirds of the area of Ireland: in which estimate the surface of the lake is included. Several passes lead from the valley to the low countries on the east and west, and traverse the two chains of the Bolivian Andes. The mean elevation of these mountain-passes is 14,600 feet above the sea-level, or 1600 feet above the level of the valley.

The climate of this valley is not subject to great changes of temperature, neither heat nor cold being very sensible, except during the nights from May to November, when ice is formed. The winter-season is

extremely dry, the sky is cloudless, and there is neither rain nor snow. Snow, however, falls at the beginning and end of the rainy season, or summer, which commences at the end of November, and terminates in April. During the summer it rains nearly every day, but the rains are not heavy, and during the night the sky is clear and cloudless. Even in February the thermometer never rises above 60° ; and in July it descends, only during the night, to 28° . The whole valley is destitute of trees; but the natives have found a substitute for wood and timber, in the rushes which line the banks of the lake to a great extent. The greatest part of the surface of the valley is covered with a beautiful green turf; a small portion is under cultivation, which, however, is limited to a few plants; rye and barley are indeed sown, but they do not ripen to seed, and are cut green as fodder for the beasts of burden. The fields, on which quinoa (*chenopodium quinoa*) and potatoes are grown, are extensive.

The eastern chain of the Bolivian Andes descends with a rapid declivity to the eastern plain, north of 17° S. lat. This declivity is furrowed by short, deep, and narrow transverse valleys, formed by offsets which branch off at a distance of about 50 miles from the chain. But near 17° S. lat., an extensive and elevated range, called the Sierra de Santa Cruz, branches off and runs eastward about 200 miles, until it terminates within a few miles of the town of Santa Cruz de la Sierra, which stands on the banks of the Río Guapahí. This chain rises above the limit of perpetual snow in the Nevado of Tinaira, near the town of Cochabamba. The valley which runs along the southern base of this elevated lateral range is noted for its great fertility and the tropical fruits with which it abounds; near the principal range of the Andes it has an elevation of about 10,000 feet, but gradually lowers until it sinks to 4000 feet. Several other ranges branch off from the eastern chain of the Bolivian Andes between 18° and 20° , but they do not advance eastward more than 100 miles. The valleys enclosed by them, though inferior in fertility to the Valley of Cochabamba, resemble it in climate, having nearly the same elevation above the sea; and they produce the same kinds of grain, fruits, and plants. When the countries enclosed by these offsets and the tract which divides the western chain of the Andes from the Pacific are added to the space occupied by the two principal chains, and the Valley of Titicaca, the whole mountain region in these parts is more than 500 miles wide.

In the mountain region of the Bolivian Andes rise the most northern branches of the Río Pilcomayo, an affluent of the Paraguay, and also the principal branches, of which the Madeira, an affluent of the Amazonas, is formed, namely, the Guapahí, the Mamore, and Beni.

8. The *Peruvian Andes* begin on the south with the northern declivity of the Sierra de Vilcanota (14° and 15° S. lat.), and terminate on the north on the banks of the Marañón, where it begins to run eastward, and forms the Pongos of Rentema and Manseriche (5° S. lat.) The whole

of this part of the mountain-system inclines more to the north, so that its length lies nearly due south-east and north-west. The width is hardly inferior to that of the Bolivian Andes, averaging about 360 miles, if the lower tract along the Pacific is included. Two elevated chains, nearly 300 miles distant from each other, enclose the region on the west and east. The western chain, running at a distance of from 30 to 50 miles from the Pacific, is not interrupted by any break. It contains several elevated summits which rise above the limit of eternal snow, but they are far less numerous than in the Bolivian Andes. The most remarkable of these summits are the Toldo di Nieve, south-east of Lima; the Nevado de la Viuda, near 10° S. lat.; the Altun Chagua, somewhat farther north, which probably attains an elevation of more than 20,000 feet; and the Nevado de Huaylillas, near $7^{\circ} 30'$ S. lat. North of the last-mentioned summits no snow-capped mountains occur till we reach Chimborazo (2° S. lat.). The mountain passes which always lead over the lowest portion of a range are never below 14,000 feet, south of 7° S. lat.; but north of that parallel they sink to 11,000 and even 9000 feet. The eastern range, which is called Cordillera del Este, is a continuation of the eastern chain of the Bolivian Andes, which encloses the Vale of Titicaca; it runs between 71° and 75° W. long., until it terminates rather abruptly near 7° S. lat., not far from the banks of the Ucayali River, in the Pampas of Sacramento. At its southern extremity, from 14° to $13^{\circ} 10'$, it is entirely covered with snow, but the snow-covered mountains terminate with the Nevado de Salcantahi. Farther north, no part of this range rises to the snow-line.

The country included by these two ranges is occupied by mountain-ridges of various elevation, and by numerous valleys of considerable length. Nearly in the middle of the region, but adjacent to the western and principal range, is the mountain-knot of Pasco, in which are united the principal ranges that traverse the interior of the region. The most remarkable of the ranges running through the mountain-region south of the mountain knot of Pasco, is that which branches off from the Sierra de Vilcanota, near 72° W. long., and traverses the region diagonally, dividing the valley of Cuzco or of the Rio Vilcamayu from that of the Apurimac. It has a break near 12° S. lat., through which the river Apurimac flows after its junction with the Mantaro or Jauja, but it continues along the eastern banks of the last-mentioned river to the mountain-knot of Pasco.

By this diagonal range the region is divided into two sections: one of them lying to the west of it extends to the western chain of the Andes, and the other to the Cordillera del Este. The western section is composed of the larger valleys of the rivers Apurimac and Mantaro or Jauja, and a large number of smaller ones; it differs considerably in its southern and northern districts. The valley of the Apurimac in its higher parts is probably as elevated as the valley of Titicaca (13,000

feet); for there are few places in which corn and vegetables can be grown, except potatoes; but the mountains supply abundant pasture for cattle. It is consequently very thinly peopled. But the valley of the Rio Jauja contains a comparatively large population; and several tropical fruits are successfully cultivated, such as yams, yucas, sugar-cane, cotton, maize, and also wheat. Its mean elevation therefore cannot exceed 8000 feet, and it is probably much less in the larger part of the valley, which is wide, and contains several important towns. It is one of the most fertile districts of Peru: we have no exact particulars as to its climate.

The eastern section, or that in which the ancient town of Cuzco is built, is only known in the southern districts which seem to lie between 10,000 and 12,000 feet above the sea-level: the site of the town of Cuzco itself is 11,380 feet high. These districts are traversed by several ridges, running south and north, and separating several valleys which are from 5 to 10 miles wide. The elevation of the ridges is not great, as they are covered with forests and luxuriant pasturage, and green to their summit, though the declivities are steep. The valleys also are covered with dense forests, and are very fertile where they are cultivated. They produce wheat, maize, batatas, yucas, plantains, the sugar-cane and the fruits of Europe. The rivers are extremely rapid and full of small cataracts, a fact which shows that the country lowers rapidly towards the north. Respecting its climate, we only know that it has rain in abundance, as there occur 300 rainy days in the year. That portion of this section which lies north of 12°, seems to be a vast forest without any ridge of considerable elevation; no European settlements have been established on it, probably on account of its unhealthiness.

All the rivers which rise in the southern section of the Peruvian Andes, unite in one river, the Ucayali, an affluent of the Amazonas. The most southern of its branches is the Apurimac, which rises in the Sierra de Vilcanota and runs north and north-west for about 300 miles, until it meets the Jauja or Mantaro. The last-mentioned river rises on the plain which is enclosed by the mountain-knot of Pasco in the Lake of Chinchaycocha; near the Cerro de Pasco: it descends from that high elevation (14,000 feet) with an exceedingly rapid course in a narrow glen, until about 20 miles from the lake it enters the wide valley of the Jauja, in which it flows to the south-east for about 200 miles, when its course is deflected by an opposing mass of high mountains first to the east and afterwards to the north-west, and again to the east. The lower part of the stream is called Rio Mantaro, and after a course of more than 300 miles, it unites with the Apurimac, and the name of both rivers is exchanged for that of Rio Tambo. The Tambo runs nearly due north for 200 miles, when it is joined by the Rio Vilcamayu, which is formed by the union of the two most considerable rivers of the region that surrounds Cuzco, the Quillabamba, the western and the Paucartambo, the

eastern. These two branches run more than 200 miles, before they unite, and after their union, the Vilcamayu flows 100 miles more before it joins the Tambo. The Tambo then turns to the north-west, and after 100 miles more, it is joined by the Pachitea from the west, an affluent which does not run much above 100 miles, but brings down a great quantity of water. From this union the river takes the name of the Ucayali, and still runs about 500 miles before it joins the Amazon, north of 5° S. lat. and west of $73^{\circ} 50'$ W. long. The whole course of the Ucayali, measured from the sources of the Apurimac or Jauja, to the Amazonas, exceeds 1000 miles. Little is known respecting the navigability of these rivers; it is, however, certain that the Indians ascend the Vilcamayu and Quillabamba to 12° S. lat., though the course of these rivers is very rapid; and that the Ucayali is navigable for large vessels as far as Sarayacu, a distance of about 100 miles from its mouth.

The mountain-knot of Pasco, situated between 10° and 11° S. lat. consists of a plain of moderate extent, surrounded by mountains which rise from 500 to 1000 feet above it. These mountains are broken on the north, east and south, by narrow chasms. The plain itself is about 12 miles from east to west, and about 25 miles from north to south: it is nearly 14,000 feet above the sea-level, and perhaps, the highest place in the Andes which is inhabited. It is only about 2000 feet below the line of perpetual snow, which here occurs at an elevation of about 16,000 feet: the vale of Titicaca is 4000 feet below the snow-line. The surface consists of bare rock, or of sand, which in most places is covered with peat, or with swamps overgrown with mosses. The grassy spots are few and of moderate extent; they, however, supply pasture to sheep and llamas, and to numerous vicuñas. In many places there are deep lakes. Three of these lakes are the sources of three considerable rivers, which run to the south, east, and north. The Lake of Chinchaychoca is situated at a short distance from the Cerro de Pasco, which contain the richest mines of silver that are now worked in South America. From this lake issues the Rio Jauja, which soon enters the southern cleft of the mountains and descends southwards. Three miles north of this lake is that of Chiquiacoba, whence the Rio Huallaga issues, which traverses the eastern cleft and descends rapidly to the lower country lying farther east. The Lake of Llauricocha occupies the northern part of the plain, and the Marañon, which issues from it, escapes by the northern cleft. The mean temperature of the Plain of Pasco probably does not exceed 40° , and the climate is very disagreeable even in April, which is the best month. The nights are calm, but cold; and a hoar-frost covers the plain at sunrise. At 9 o'clock the thermometer rises 2° or 3° above the freezing point, and great heat is shortly after experienced in the sun, whilst in the shade it is very cold; the thermometer indicates a difference of 7° . The sky is cloudless and of a dark blue hue, but the sun is without its usual bright-

ness, and force: it always appears as with us at the time of an eclipse. After mid-day, frightful thunder-storms frequently commence with abundance of hail. Between the months of December and March, these storms do great damage, killing both men and sheep. In that season, the rains mixed with snow last for weeks altogether. No plant, nor root is cultivated here. A few of the inhabitants subsist on the produce of their sheep and llamas, but by far the greatest number get their livelihood in the mines of the Cerro de Pasco.

Besides the principal western chain of the Andes, two other chains, which run northward, issue from this mountain-knot. These three chains enclose the valleys of the rivers Marañon and Huallaga. The central chain which is between the two valleys just mentioned, is hardly 30 miles wide near the mountain-knot, but increases in width as it proceeds northwards, so that near 6° S. lat. it occupies the greatest part of the space between the two rivers, and is more than 180 miles wide. In the wider part of the range there are several very elevated summits, and two of them rise above the snow-line, the Paramo de Caracalla, near 7° 30', and the Paramo of Piscocayña, south of 5° S. lat. The eastern range which divides the valley of the Huallaga from that of the Ucayali, and is connected with the eastern side of the mountain-knot, soon sinks to a moderate elevation, and none of the summits rise above the limit of trees, with which both its sides, as well as the western declivity of the central range, are abundantly clothed. This eastern range terminates between 6° and 7° S. lat. on the banks of the Huallaga.

The Marañon, after issuing from the Lake of Llauricocha flows for about 150 miles in a very narrow valley between two high masses, with the rapidity of a mountain torrent: it descends from nearly 14,000 to 6000 feet. The valley afterwards widens considerably, and the current of the river becomes more gentle, but the rapids and cataracts are still so numerous, that no part of the river is navigated above the town of S. Juan de Bracamoros, a distance of 300 miles. A short distance above the town, the valley again becomes narrow, and the current of the river is rapid. After falling down the Pongo (cataract) of Rentema, the surface of the Marañon is only 1233 feet above the sea-level. At this place the river turns to the north-east, and then to the east, and its current is rather rapid until it leaves the mountains by the Pongo de Manseriche. Here the river, which has a bed above a mile wide, is suddenly contracted by high mountain masses to a breadth of 50 yards, and the current runs with inconceivable rapidity for nearly seven miles. This long rapid can only be descended by balsas. When the river has left the chasm, it enters the Plain of the Amazonas. The course of the Marañon within the range of the Andes exceeds 700 miles. The upper part of the valley of the Marañon is too narrow, and too cold to be cultivated, but the lower and wider portion, though not distinguished by fertility, produces corn, maize, yams, yucas, and some of the fruits of tropical climates.

The Rio Huallaga, after leaving the lake of Chiquiaco, descends by an exceedingly rapid course from the eastern declivity of the mountain-knot of Pasco: at the town of Huanuco, about 60 miles from the Cuzco de Pasco, it is only 6300 feet above the sea. Farther down the current is less rapid, but frequently interrupted by small water-falls & rapids, until its bed is narrowed by mountain-masses, which between 6° and 7° S. lat. come close to the bank. At this place a wide ridge of rocks crosses the river, and produces a long rapid, the Pongo de Huallaga, which cannot be navigated by barges without great danger. The remainder of the course is through the Plain of the Amazonas, and the current does not offer any obstruction to navigation, even for vessels of considerable burden. Only the upper part of the valley of this river, or about one-fifth of the whole, contains settlements of whites. The climate is pleasant, and it produces both the fruits of the tropics, and of Europe: the rains are moderate. The lower part, or about four-fifths, of its extent, where the valley expands to a width of 8 or 10 miles, is almost entirely inhabited by savage tribes: in these districts it rains nearly every day in the year. This part of the valley is probably about 2000 feet above the sea. It is extremely fertile and covered with lofty trees.

The lower country which extends along the western base of the Bolivian and Peruvian Andes, is from 20 to 50 miles across. This whole tract is never refreshed by a drop of rain; the northern limit, within which the winter rains occur, terminates at the town of Huasco near 28° S. lat., and the southern limit of the tropical rains does not extend south of the Bay of Guayaquil. Dews are frequent and heavy; and during the rains on the declivities of the mountains, the sky is covered by a low, dark, unbroken cloud, similar to a dense fog, which is called the *Garua*. Thunder storms are never experienced, but lightning sometimes appears at a distance. The mean annual temperature is 72° . After noon, it is generally between 75° and 78° ; at night between 60° and 64° . The greatest heat does not exceed 82° ; and the thermometer never descends below 55° . These meteorological observations apply especially to the coast-line, between 8° and 13° S. lat. The whole tract would be uninhabitable for want of water, but for the rivers which descend from the Andes, and are fed by the rains that fall on the mountains, and by the melting of the snow. These rains begin on the southern mountains in November and terminate in April; but farther north, they set in later in the year, and cease later: so that near 5° S. lat., they begin in January or February, and continue to June. It has not yet been ascertained at what elevation above the sea the rains begin, but probably there is no rain lower than 8000 feet.

The surface of this coast presents great inequalities, and in some parts rises into hills of considerable elevation. It usually descends in irregular terraces from the base of the mountains to the sea, where it terminates with a high coast south of 15° S. lat.; but farther north the

East is rather low. The greater part of this region is covered with sand, here and there interspersed with rock. This long line of desert is intersected by rivers and streams, which are seldom less than 20, or more than 80 or 90 miles apart. On their banks there are narrow cultivated strips of land, the extent of which is in proportion to the supply of water. During the rainy season these rivers swell greatly. They begin to rise a month after the rains on the mountains have set in, and they continue to be full to the end of the rainy season. For the months preceding the rainy season, most of them contain no water at all, and it can only be got by digging wells in the dry beds of the rivers, but the water is always of an unpleasant taste and commonly blackish. The water of these rivers is applied with great skill to irrigate narrow fields along their banks. Beyond the reach of this irrigation, no blade of vegetation ever grows; neither birds, beasts, nor reptiles, are ever seen. Sometimes a rill of water bubbles up and is lost within a space of 100 yards. No stranger can travel from vale to vale, as these cultivated strips along the rivers are called, without a guide. The sand is frequently raised into immense clouds by the wind, and sand-spouts are of frequent occurrence. The irrigated tracts produce sugar-cane, maize, yams, and other tropical fruits, and in some of them tolerably good wine is made. The greater number of these vales run along the base of the Bolivian Andes and the northern portion of the Peruvian Andes; and the rivers usually preserve their waters throughout the year, probably, because they are fed by the melting of snow which covers a great number of summits in these parts. The vale in which the town of Arequipa is built, is noted for its extent and fertility.

The eastern declivity of the Andes being abundantly watered by the constant rains, is covered from the base to an elevation of 10,000 feet, with thick woods and high trees. The western declivity of the Andes, being never fertilized by rain, is quite bare of wood and even bushes, except in the ravines through which the rivers descend; and even there the trees are low, and timber trees are very rare.

The vegetation of the western declivity, as far as respects plants and trees cultivated for food, is divided into three regions. The lowest region, extending to an elevation of more than 2000 feet above the sea, is the region, of tropical productions, where maize, rice, yams, bananas, acas, sweet-potatoes, and the sugar-cane are cultivated; wheat does not succeed below 1500 feet, but lucern, which is much cultivated as fodder, grows at 700 feet above the sea-level. The principal fruits of this region, are pine-apples, anonas, and chirimoyas. The second region, that of the European cerealia, which extends from 2000 to 10,000 feet. Wheat and lucern, are cultivated through the whole extent of this region, as well as most European legumes; potatoes do not succeed below 6000, and barley not below 7000 feet. The aracacha root seems not to succeed below 6000 feet, nor above 9000 feet. Nearly all European

fruit-trees thrive well, especially the peach, and vine. In the highest region between 10,000 and somewhat more than 13,000 feet, no other grain is cultivated as food, except the quinoa, nor any other root than potatoes and onions; lucern succeeds as high as 12,000 feet; barley is grown as fodder, up to 13,000 feet. This highest region contains few pastures.

9. *The Northern Andes* beginning at 5° S. lat., and terminating between 7° and 9° N. lat., may be divided in two sections, of which the southern extending from 5° S. lat. to 2° N. lat., are called the *Equatorial Andes*, because they are intersected by the Equator; the northern section is called the *Andes of New Granada*, nearly the whole of it being included in that State.

The *Equatorial Andes*, south of the Equator, run nearly due south and north; but north of it they run north-east. At each extremity they form a mountain-knot. The southern, called the mountain-knot of Loxa, extends from 5° 30' to 3° 15' S. lat., and covers more than 11,500 square miles; the northern, or that of Los Pastos, lies between 21' and 1° 13' N. lat., and covers above 8500 square miles. Between these two mountain-knots the Andes form an extensive mass of rocks, occupying in width a space of about 100 miles. On both edges of this mass lofty ranges run parallel to one another, crowned by numerous summits, several of which rise above the snow-line. The highest parts of these ranges may be on an average about 60 miles from one another, and between them extends a longitudinal valley, which is from 15 to 20 miles wide, and nearly 300 miles long. At two points transverse ridges unite the ranges, and thus the great valley is divided into three smaller valleys. The most southern, called that of Cuenca, is on an average 7800 feet high; that which lies north of it, called the Valley of Alausi and Hambato, may be 8000 feet; and the most northern, that of Quito, is 9600 feet above the sea. The transverse ridge which separates the valley of Cuenca from that of Alausi and Hambato attains, in the place where it is crossed by a mountain-pass, an elevation of 15,200 feet, and approaches the snow-line; this pass is called the mountain-pass of Assuay. On each side of the two northern valleys several mountain-summits rise above the snow-line. On the west of the Valley of Alausi and Hambato stands Chimborazo, whose summit attains an elevation of 21,420 feet above the level of the sea; and on the eastern range the Volcano of Cotopaxi, which is 18,880 feet high. On the eastern range of the Valley of Quito is the Antisana, which is 19,136 feet high, and the Cayambe Urco, 19,617 feet high. The last-mentioned summit is under the Equator. On the western side of this valley is the volcano of Pichincha, 15,918 feet high. In these ranges, as well as the mountain-knot of Los Pastos, there are several volcanos. The inhabited places on the last-mentioned mountain-knot are more than 10,000 feet above the sea-level.

In these elevated valleys the change of seasons is scarcely perceptible.

The mean temperature of the day all the year round is between 60° and 67° , and that of the night between 48° and 52° . During the morning, to one or two o'clock, the weather is generally delightful, the sky being clear; but after this hour the sky begins to be covered with black clouds, which bring on dreadful tempests of thunder and lightning, followed by torrents of rain; the nights, however, are again serene. The number of rainy days is very great; and they are more frequent between September and May, which period is called the winter, than in the remainder of the year. Cultivation is limited to the raising of wheat, barley, and Indian corn; and only the fruit-trees of Northern Europe succeed well. Tropical plants do not grow, except in some of the deep valleys.

The country which extends between these Andes and the Pacific is about 50 miles across on an average. The surface is less broken than that of any other part of the western coast of America, but it terminates on the shore in a great number of projecting capes; the shores themselves, however, are not high, except in a few places, as at Cape San Lorenzo. In this part occurs the largest inlet along the whole western coast line of South America, north of 42° S. lat.: this is the Bay of Guayaquil, the entrance to which lies between Cabo Blanco (4° S. lat.) on the south, and Punta de St. Helena (2° S. lat.). It extends nearly 50 miles inland, measured in a straight line; but as it turns to the north, the innermost recesses are more than 120 miles from Cabo Blanco. Within the bay is the Island of Puna, which is about 16 miles long and 8 miles wide, and of moderate elevation. In the country north of the bay a regular rainy season occurs from December to April; and although a part of it is covered with naked and sterile rocks, the valleys are fertile, and produce every kind of tropical plants and fruits. The Valley of Guayaquil is distinguished by extent and fertility, being nearly 100 miles long and from 5 to 8 miles wide, and abounding in plantations of cacao trees and sugar-canes; but as it is level and low, the inundations of the river, united to the great heat, render it unwholesome. The mean temperature of this valley varies between 78° and 82° ; and between December and April the thermometer rises to 95° . In this season a continual calm prevails, and the rain falls both day and night, with short interruptions; it is accompanied with frequent tempests of thunder and lightning. In the remainder of the year the heat is moderated by the western and west south-western winds; the sky is always serene and bright, and showers are very rare.

10. The *Andes of New Granada*, which comprehend the most northern part of the range, begin at $2^{\circ} 5'$ N. lat., where a transverse range, called the Sierra Socoboni, crosses the mountain-system from east-south-east to west-north-west. On the north of this chain the great mass of the Andes separates into three elevated ranges, which, running

north and east, enclose the valleys of the rivers Magdalena and Cauca. They are called respectively the Western, Eastern, and Central Andes of New Granada.

The *Western Andes* run nearly due north, with a slight deviation to the east, as far as 5° N. lat. This portion of the range is not high, the mean elevation not exceeding 5000 feet. North of 5° N. lat. there are several higher summits, among which the Pico de Torro is 10,000 feet. The chain here divides into two ridges, of which the principal and highest runs due north; but towards its termination it inclines to the east. South of 8° N. lat. this chain may be more than 5000 feet high; but north of that parallel it subsides into hills, which terminate near 10° N. lat., between Cartagena and Baranca. The western ridge runs a short distance westward, separating the sources of the rivers San Juan and Atrato, the former running southward, and the latter northward; it then turns to the north, in which direction it continues to about $7^{\circ} 30'$ N. lat., terminating in some hills on the banks of the river Napipi, an affluent of the Atrato. The whole of this ridge, which is about 100 miles long, is probably not above 3000 feet high. It is not connected with the mountains of the Mexican Isthmus.

The *Central Andes of New Granada* run parallel to the Western Andes, and nearly due north. This is the most elevated of the three ranges, and several of its summits are always covered with snow; as the Nevados of Huila, Baraguan, Tolima, and Herveo. The Peak of Tolima attains 18,315 feet, and is the highest mountain in South America, north of the Equator. Near its base is the mountain-pass of Quindiu, the highest point of which attains 12,500 feet; so that the mean elevation of the range in this part may be supposed to be above 12,000 feet. North of 6° N. lat., the range sinks much lower, but extends considerably in width, occupying with its branches by far the greatest part of the country between the river Cauca and the river Magdalena. The ranges extend close to the eastern banks of the Cauca, but remain at some distance from the Magdalena. North of 8° N. lat. the mountains sink down to hills, and terminate at no great distance from the confluence of the Cauca and Magdalena rivers.

The *Eastern Andes of New Granada* run in a north-north-east direction as far as 7° N. lat., where they divide into two ranges, of which one called the Mountains of Ocana runs north, with a slight inclination to the west, and terminates between 9° and 10° N. lat. This lateral range is of moderate elevation, and does not rise above the limit of trees. The principal range branches off to the east north-east, and terminates near 9° N. lat. and 70° W. long., at the sources of the river Tocuyo, in the Páramo de las Rosas. South of 5° N. lat., the Eastern Andes form one continuous mountain mass, rising about 12,000 or 13,000 feet, but none of the summits attain the snow-line. It descends on both sides with a very steep declivity; the eastern declivity towards the Plains of

Orinoco continues to be steep farther north; but on the west the range descends in terraces, table-lands, and elevated valleys, which end to 8° N. lat. In this part of the range the Nevado de Chita ($50'$ N. lat.) rises above the snow-line. In the most northern part of the range there is another snow-capped mountain, the Nevado de Acuchies, east of the town of Merida; it is also called the Nevado de Merida. This part of the chain is somewhat less elevated. The most frequented mountain-pass over the Eastern Andes, is that of Almozadero, which is near the place where the mountains of Ocaña separate from the principal chain. The most elevated point is 12,850 feet above the sea-level.

Several navigable rivers traverse this mountain-region, and its extensive valleys and plains. The most western is the Rio Atrato, which falls into the Bay of Candelaria, near 8° N. lat. The river runs between two chains of the Western Andes, and has a course of nearly 200 miles. Though extremely rapid in the rainy season, it is navigable for vessels not drawing more than 7 feet water as far as the town of Citara, 6 miles from its source. In the dry season and at low-tide the bar has only 5 feet water, but in the rainy season or at high-tides, $6\frac{1}{2}$ feet. The Bay of Candelaria, which constitutes the innermost part of the Gulf of Guian, is spacious, has good anchorage in 18 to 30 fathoms water, and is sheltered against every wind; it is only subject to a heavy swell during the months when the north winds prevail. One of the sources of the Atrato, called Rio Quinto, rises near the source of the Rio San Juan, which runs southward and falls into the Pacific near 4° N. lat. Between the sources of these rivers is a ravine called Quebrada de Caspadura, which is two miles long; in this ravine the Indians have dug a small canal, which is navigable during the heavy rains, when they carry the cacao, grown along the banks of the Rio San Juan, to the Atrato for exportation. This canal, which was made in 1788, is at present the only existing water communication between the Atlantic Ocean and the Pacific, and it unites two points of the coast, which are nearly 300 miles distant from each other.

The Rio Cauca rises in the Sierra de Socoboni, and drains the valley situated between the Western and Central Andes. It first runs about 60 miles in a narrow glen between high mountains; at the village of Quiluchao it enters a wide valley, which extends along its banks nearly 80 miles, varying in width from 20 to 30 miles. This valley is about 2000 feet above the sea, and the current of the river is very gentle. About 30 miles north of the town of Cartago the Cauca enters a narrow valley formed by high mountains, which does not contain level ground enough for a road. In this glen the river flows with astonishing rapidity, forming a succession of rapids and cataracts for a distance of 120 miles from Salto de S. Antonio to Boca de Espiritu Santo. It then enters a wider valley which increases in width north of the town of

Atacama, where the river declines to the north-east and meets the Rio Magdalena before Mompox, after a course of 660 miles.

The Rio Magdalena rises near 2° N. lat. and runs in a narrow valley with a rapid course as far as 3° 30' N. lat., where the valley enlarges to 40 or 50 miles in width. This Valley extends with equal width to 4° 40' N. lat. and is from 1500 to 2000 feet above the sea: the course of the river is gentle. But lower down the mountains approach the river on each side, and especially on the east, and the current then becomes much quicker. Below Honda (near 5° N. lat.) eleven rapids occur, which render the navigation difficult and even dangerous, and only one at Buñilo (near 5° N. lat.). In this part the valley of the river is rarely 10 miles wide, and sometimes not half so much. Below Buñilo it widens to more than 60 miles, and the river divides into two branches, enclosing an island about 20 miles long and 10 miles wide. Both branches are navigable: the eastern runs with great rapidity, and is only used in descending, while the more gentle current of the western is more favourable to ascending boats. After the re-union of these branches the river declines more to the north-west; but after its confluence with the Rio Cauca, below Mompox, it again turns to the north, and runs through a wide plain past Baranca to the Caribbean Sea. About 60 miles from its mouth it divides into two branches, of which the principal runs north and falls into the sea at Savanilla; this branch is little navigated. The other branch, which runs to the north-east, and is more used, expands into several small lakes, and terminates in the Ciénega de Santa Marta, an extensive lagoon, or Salt Water Lake, with a mean depth of 6 or 7 feet, which communicates with the sea by a narrow channel some miles south-west of the town of Santa Marta; but this channel has a bar at its entrance. The Rio Magdalena runs about 840 miles, and is nearly equal to the Rhine in length. Besides the Rio Cauca, only two of its affluents are navigable: the Sogamozo, which joins it on the right near 7° N. lat., and the Cañaverales, which falls into it north of 8° N. lat. likewise from the right; both these rivers can only be ascended to a short distance by small craft. North of 10° N. lat. the canal of Mahates leads from the river westwards to the sea: it begins at the town of Baranca Nueva, and terminates some miles south of the town of Cartagena. This canal is partly artificial, but it can only be navigated by boats for about five months during the heavy rains.

The Lake of Maracaybo is 120 miles long from south to north, and is 80 miles across in the widest part. It has a considerable depth of water, except towards the shores. A channel about 12 miles long connects the lake with the Caribbean Sea. The channel is about 3 miles wide at the town of Maracaybo, where it is narrowest. A bar runs across the entrance which has only 10 or 12 feet water on it. The water of the lake is sweet, except during the strong northern breezes, when it is brackish towards the northern end. It is said that nearly 100 rivers

into this lake, most of which rise in the northern range of the Eastern Andes. The Rio Zulia alone is navigated to any considerable distance, and the produce of an extensive country is brought down by it to the lake and town of Maracaybo.

With respect to climate and vegetable productions, this region may be divided into three sections: the Low-lands, the High Valleys, and the Low-lands which are contiguous to the Eastern Andes. The Low-lands comprehend the low country along the coast of the Pacific, the valley of the Rio Atrato and the lower valleys of the rivers Cauca and Magdalena, in the department of Antioquia and Honda. The greater part of this extensive country is subject to frequent inundations, caused partly by the overflowing of the rivers, and partly by the rains which are very heavy, and nearly every day all the year round. It never enjoys the slightest breeze, except during the thunder-storms, which are very frequent in the night. The vapours raised by the intense heat of the atmosphere in the numerous swamps and pools left by the inundation in the soft alluvial soil, render the climate extremely unhealthy, especially for Europeans. The mean annual temperature varies between 78° and 82° . Although the soil is very fertile, and produces every kind of tropical fruit and plant, nearly the whole of this country is abandoned to the native tribes; settlements of whites only occur on the banks of the Rio Magdalena, and in the mining districts of Antioquia, on the Cauca, and at Citará on the Atrato. The banks of the small river Guaviare, which falls into the Caribbean Sea, form an exception: they are cooler and more healthy, and rice is cultivated here to a great extent. The whole region is covered with one interminable forest, with the exception of some savannas of moderate extent.

The country between the Valley of the Magdalena and the Lake of Maracaybo differs from the other lowlands in climate and productions. In this tract rises an isolated mountain-range called the Nevado de Santa Marta, which extends at a distance of about 30 miles from the Caribbean Sea, from S.S.W. to N.N.E. over a space of nearly 60 miles. Its highest summit, El Picacho, rises to more than 18,000 feet, and is considerably above the snow-line. The country between this range and the northern extremity of the Mountains of Ocaña is much more elevated than the countries which lie farther east and west. The seasons are more regular, and between November and March it has a dry season, which renders the country much more healthy. It is also not entirely covered with woods, but contains extensive prairie lands, which supply excellent pasture for cattle. In this country the settlements are increasing. But the countries around the Lake of Maracaybo are low and unhealthy, and left almost entirely to the native tribes.

The upper part of the valleys of the Cauca and Magdalena rivers, above the Salto of San Antonio and the town of Honda, have a level, or in some parts an undulating surface, generally consisting of grassy

plains; in some parts it is covered with bushes, but high trees are not common. The soil is in general fertile, especially in the valley of the Cauca; but in the valley of the Rio Magdalena is better drained, the bed of the river being depressed many feet below the plains, while the lands contiguous to the Rio Cauca are inundated during the great rains. The seasons are regular: the heavy rains fall in February, March, and April; the drought in May is variable, and then follows the dry season in which not a drop of rain falls during the months of June, July, and August. During the remainder of the year showers are frequent in the Valley of the Magdalena, but they are rare in that of the Cauca from November to January. Every day about noon a strong wind begins to blow from the south and continues to sunset. This wind causes great heat, but is considered healthy. Both valleys, though considerably elevated above the level of the sea, are not high enough to preclude the cultivation of such crops as tobacco, cacao, coffee, and the common agricultural crops of the tropics, such as yams, mandioca, Indian corn, batatas, and bananas; but the greater part of the valley of the Cauca is a pasture for numerous herds of cattle and horses.

A steep ascent of more than 8000 feet of perpendicular height from the town of Honda, on the river Magdalena, leads to the elevated plain of Bogota. This plain measures about 45 miles from south to north, and half as much from east to west, and it is about 8900 feet above the level of the sea. The climate of this plain is very temperate, the thermometer seldom rising above 60° or 65° in summer, or falling in winter below 40° or 48° . The seasons do not coincide with those of the valley below, as the dry season lasts only from the beginning of January to the end of March. During the months of April, May, and also from the beginning of September to the end of December the rains are nearly continual, and in June, July, and August, the weather is unsettled and showery. The grains, vegetables, and fruits of Europe are cultivated, but still more the araca root. North of the plain of Bogota, about the sources of the Sogamozo, the country rises still higher, and is very mountainous; in the elevated valleys, between the ranges, agriculture is limited to the raising of rye and barley, the climate being very cold and rainy. But, north of 6° N. lat., the mountains gradually sink down, and the whole country lowers, except in the immediate vicinity of the Eastern Andes. The climate also becomes more agreeable, and wheat, and Indian corn, with many tropical fruits are cultivated in this tract.

North of 8° N. lat. the highest part of the Eastern Andes contains a level plain on its summit which is about 10 miles wide, and more than 12,000 feet above the sea-level: it is a páramo, on which only a few hardy plants grow, but neither trees nor bushes are met with. On both sides of this narrow table-land there are many plains of moderate extent, which constitute the declivity of the range, and are in the form of terraces. They are frequently intersected by transverse, and sometimes

longitudinal valleys from 2 to 3 miles wide, and from 10 to 20 long. both plains and valleys are at a different elevation above the sea-level, they vary greatly in climate and products. At the height of 4000 feet above the sea-level, the climate becomes mild, the vegetation continues interrupted throughout the year, and wheat and other productions of temperate regions are abundantly cultivated. The climate continues mild and agreeable to the height of 9000 feet, when it becomes cold. This colder region is usually clouded, and vegetation is slow in growth, and limited. The declivity occupies from 20 to 35 miles on each side of the mountain-range: it is bordered on the east by the Plains of the Orinoco, and on the west by the low country south of the Lake of Maracaybo.

11. The *Mountains of Venezuela* begin where the Andes terminate, branching off from the most northern extremity of the Paramos de las Rosas. Being immediately connected with the Andes, they must be considered as an appendage to them, and might be viewed as a continuation of that mountain-system, if they did not differ so much in elevation. They fill up nearly the whole of the country which extends between the Lake of Maracaybo and the harbour of Puerto Cabello, within which limits they constitute several ridges separated from each other by valleys of moderate extent. The highest part of the ridges does not appear to exceed 5000 feet above the sea-level, and the lower depressions towards the centre hardly rise to 3000 feet. In this part, the mountains occupy a width of 70 or 80 miles, and are separated from the shore by a hilly country, which extends from the neighbourhood of Maracaybo to the Santa Tucacas, west of the harbour of Puerto Cabello. South of the last-mentioned place, the mountains, which occupy hardly more than 40 miles in width, run in two parallel ranges eastward to Cape Codera, and enclose two valleys, of which the western is called the Vale of Aragua, and the eastern the Vale of the River Tuy. The mean elevation of these ranges does not attain 6000 feet above the sea, but near the town of Caracas, an isolated summit called the Silla de Caracas, attains 8628 feet. East of Cape Codera, the mountains sink lower and constitute a single ridge hardly more than 10 miles wide. This ridge disappears entirely between the Rivers Unare and Neveri (between 66° and 67° W. long.), and in this part the Plains of the Orinoco extend to the very shores of the Caribbean Sea. East of the River Neveri, however, the mountains again rise to about 5000 feet in the Cerro de Bergantino, to this chain is called; one of its summits, the Cerro de Tumiriquiri, attains 6700 feet. The range continues eastward to the Cabo de Peña, but in this part is much lower, and sinks down to 500 feet. East of Puerto Cabello the mountains come close up to the shore and rise several hundred feet, with a steep ascent like a wall.

The climate of this region differs considerably on the coast and in the valleys between the ridges. Along the coast of the Caribbean Sea, from the neighbourhood of Santa Marta to Cape Peña, a few showers of rain

fall in October and November, but last only 7 or 8 minutes. In some parts it frequently does not rain at all, and it is observed, that occasionally three or four years pass without a drop of rain falling in the country about Coro. In the valleys, and especially in Caracas, rain is extremely abundant in April, May, and June, though not so incessant as in other tropical countries; the other parts of the year are dry. The mean annual temperature on the coast is about 82° , that of the hot season 89° , and in the coldest part of the year, 75° . In the valleys, the mean temperature varies from 70° to 72° , that of the hot season is about 75° , and that of the cold nearly 66° , but the thermometer sometimes reaches 85° , and at other times descends to 52° . The difference of temperature by day and night in the valleys often amounts to 8° or 10° , but along the coast it never exceeds 4° or 5° .

THE MOUNTAIN-SYSTEM OF PARIME.

12. This mountain-system occupies the north-eastern portion of South America, but does not reach the Atlantic Sea, being separated from it by a low and level tract, from 20 to 70 miles across. If this tract is included, the mountain system occupies the whole space between 51° and 68° W. long. It is not of equal breadth: the eastern half (between 52° and 60° W. long.) extends from 6° to 1° N. lat., and is therefore about 350 miles across; the western half (from 60° to 68° W. long.) occupies the space between 8° and 2° N. lat., and is 420 miles wide. The whole mountain-system, including the low coast, covers an area of more than 400,000 square miles, a large part of which has not been visited by Europeans.

In the middle of this region, between 59° and 60° W. long. occurs a depression, which separates the eastern part from the western. In this depression run the two largest rivers by which the mountain-system is drained: the Essequibo, which runs north and falls into the ocean, and the Rio Branco, which runs south and joins the Rio Negro, an affluent of the Amazonas River. The upper courses of these two rivers are about 120 miles from one another; the Essequibo runs near 58° W. long., and the Rio Branco near 60° W. long. The country extending between their upper courses (3° and 4° N. lat.) is a wide plain, half of which is drained by the river Rupunoony, which runs eastward and joins the Essequibo, and the other half by the Rio Tocoto, which flows westward and falls into the Rio Branco. Between these two affluents there is a level tract containing lake Amucu, which is of small extent in the dry season, but after the rains inundates the adjacent low country, and the waters then run partly eastward into the Rupunoony, and partly westward into the Rio Tocoto; in the dry season its waters are discharged only into the Rio Tocoto by the small river Pirarara.

The western portion of this mountain-system consists of numerous ridges, running in a general east and west direction, with a few short

ts towards the north. The rivers run chiefly in the same direction, their current is rather gentle; but a few which turn northward are interrupted towards their termination before they fall into the Orinoco by rapids and cataracts. The mountain ridges, so far as is known, rather narrow, and the valleys occupy the greater part of the region. Orinoco river encloses this mountain-system on the west and north, the mountains approach the right bank within about 6 miles: accordingly there is only a narrow tract of level ground between the mountains and the river, except at the openings of the valleys and in the country which lies opposite the mouth of the Guaviare river and extends downwards to the rapids of Maypures, within which limits the mountains retire to a great distance from the banks of the river. Along the sea-shore, between the mouths of the Rio Essequibo and Orinoco, the level land extends from 20 to 30 miles inland. This tract forms the lowest shore in South America, and the coast runs in an unbroken line from south-east to north-west. During the rains the country at a short distance from the shore is entirely covered with water, and even at the end of the dry season a great part of it is a swamp. About 10 or 12 miles from the sea there is a succession of low sand hills, which occur at irregular distances, and in general lie parallel to the coast. The rivers which traverse this low alluvial tract have a general north-east direction and a very slow current; they are united by transverse channels, which have no current at all, but are deep enough to be navigated by large river boats. The country contiguous to these rivers is covered with different kinds of palms, especially the *Mauritia* palm. The great heat, the extensive swamps, and stagnant waters, render this tract uninhabitable by whites, and the settlements which formerly existed on the Pomaroon river have been abandoned. The native tribes of this tract, especially the Guaraunos, live on fish, of which they take abundance in the rivers: they generally reside in huts erected in *Mauritia* groves and raised on a platform just above the level of the water, which is three feet above the earth for three-fourths of the year. Hence has arisen the notion that they live in trees.

At the back of this tract the country rises slowly to an elevation of 500 or 1000 feet, being highest towards the river Orinoco. This ridge is covered with thick woods, and forms the northern border of the valley of the Rio Cuyuny, which runs eastward to the Essequibo, is more than 300 miles long, and navigable in the greater part of its course. Another range, running nearly parallel to the former and about 2000 feet high, divides the valley of the Cuyuny from that of the Carony, an affluent of the Orinoco, which runs first to the west and north-west and afterwards due north. In the upper part of its course the Carony is navigable, but towards its mouth there are several rapids and a cataract between 15 and 20 feet high. The valley of this river, which is wide, contains large tracts of higher level grounds, which are without trees,

and supply excellent pasture; they are interspersed with wooded hills, and produce cacao, sugar, cotton, and indigo; in the lower grounds rice is grown. In this valley the bark is collected which is called cascara de Angostura.

The remainder of the western section of the mountain-system of Parí is not known, except that towards the southern border, near 4° N. lat. it is traversed in its whole length from west to east by a more elevated range, called the Sierra Pacaraima. It contains the Cerro Duida, which attains an elevation of more than 8000 feet; and near the place where the river Rapunony enters the Essequibo, it terminates with the Makurá Mountains, which rise abruptly to the height of 4000 feet above the base.

East of the river Essequibo the low shores are skirted by a mud-bank, extending about 7 or 8 miles out to sea, on which vessels drawing more than 12 feet water stick fast about 3 miles from the land. In this part the alluvial ground extends from 40 to 70 miles inland, and is about 100 feet above sea at high water. When these lands are drained, they become solid, and sink full a foot below the surface. Accordingly it requires unremitting attention to the dykes and sluices to keep out the sea. This alluvial ground extends from the river to the mountains, and in its natural state is covered with high grass, and some scattered trees or shrubs, and sterile; in other places, however, it is a good extent which supply good pasture. South of the alluvial ground the land gradually rises from 50 to 200 feet, and is covered with a dense forest, as is the Serra de Acaray, which is stated to be the highest range of the N. lat. On this long slope there are some small hills, and a few scattered trees. The surface of the country is generally level, and is intersected by a few hills, among which several are of considerable height. The greater part of the country is covered with a dense forest, and some continuous tracts of open land, which are used for pasturing and the plains are covered with a fine turf; the soil is generally fertile, and the climate is healthy.

The river Essequibo flows from the northward, and in its course it is intersected by numerous rapids and cataracts; but it is not a navigable river, and its course through the mountains is very difficult. It is estimated to be about 400 miles long, and its mouth is about 120 miles lower than the head of the river. It runs in a northerly direction, and is intersected by the Serra de Acaray. It receives the waters of the Serra de Acaray, and the Serra de Acaray. Its course is generally level, and it is intersected by a few hills, among which several are of considerable height. The greater part of the country is covered with a dense forest, and some continuous tracts of open land, which are used for pasturing and the plains are covered with a fine turf; the soil is generally fertile, and the climate is healthy.

ascend. Five miles lower down the river enters the plain, where it is one mile wide, and it grows continually wider until at its mouth it forms an æstuary 14 miles across. Within the plain it receives from the west the waters of the united rivers Mazaroony and Cuyuny. The entrance of this river is very dangerous and difficult, even for small vessels, on account of the numerous banks of mud and sand. The river Demerara rises near 5° N. lat., and forms a great cataract, near $5^{\circ} 25'$ N. lat., below which it is navigable for small craft. Larger boats may ascend it to a point south of 6° N. lat. Towards its mouth it widens to a mile, and where it enters the sea, it is more than a mile and a half wide. There is a bar across its mouth, over which vessels drawing 9 feet may pass at half-flood; but the channel along the eastern shore has 18 feet of water at high tides. This river runs more than 200 miles, measured along the windings. The Berbice rises probably near $3^{\circ} 30'$ N. lat., and has been ascended as far as a great cataract which is south of 4° N. lat. After having formed some other rapids, the river becomes navigable at $4^{\circ} 15'$ N. lat., a distance of 165 miles from its mouth, measured along the numerous windings, and so far inland the tides are perceptible. It widens towards its mouth, and where it meets the sea it is four miles across; there is a bar at its mouth which has only 7 feet water at low tides. The Corentyn has been ascended to $4^{\circ} 20'$ N. lat., where it forms two cataracts, one 30 feet and the other 42 feet high. At this place it is a large river, and its sources are probably in the Serra de Acaray. The rapids cease north of 5° N. lat., where the river becomes navigable to the sea, a distance of about 150 miles measured along its windings. Seventy miles from the sea the tide rises 30 inches. At Oreala, 40 miles from its mouth in a direct line, it enters the low plain, where it is a mile wide: at its mouth the width is four miles. The æstuary by which it falls into the sea is ten miles across; the entrance is 9 feet deep at low water. The upper course of the river Surinam is not known; it enters the plain about $4^{\circ} 40'$ N. lat., and so far it is navigable for river barges. Towards its mouth it is a mile in width, and north of Paramaribo it is still wider. Vessels of considerable size can enter this river and sail up to that town. The Marony is a large river, rising probably in the Serra de Acaray; it has many rapids and cataracts as far north as 4° N. lat., where it becomes navigable for large river vessels. From this place to its mouth it is not less than one mile and a half wide. The tides rise at the mouth of the Demerara from 8 to 10 feet; at that of the Pomaroon from 6 to 8 feet; and at that of the Orinoco hardly more than 3 feet.

No large river descends from the southern declivity of the Parime Mountains except the Rio Branco, which is formed by numerous small rivers that descend from the mountains between 59° and 62° W. long. South of 2° N. lat.: it runs through a wide valley containing extensive tracts of level ground, which are frequently inundated by the sudden

rise of its waters. At $1^{\circ} 30'$ N. lat. it has some rapids; but before down its course is impeded to its junction with the Rio Negro at $1^{\circ} 30'$ S. lat. This river runs more than 400 miles.

As the interior of this mountain region does not rise to a great elevation, the climate does not vary materially. There are two rainy and two dry seasons. The long rainy season commences in the middle of April, but the rains are not heavy before the middle of June; in July they decrease, and in August they cease entirely. The long dry season continues from August to November. December is showery, and in January much rain falls. February and March are the short dry season; but these months are not quite so free from showers as the long dry season. The heat of the summer is tempered by the trade wind and by the alternation of land and sea breezes. The mean temperature of the low coast may be about 80° or 82° . The thermometer, even in summer, seldom rises above 90° , and it does not often descend below 75° . The more elevated parts of the country have the same seasons as the low coast, but they take place a month later, and the rains fall in much greater abundance. Even in the plain which is drained by the river Rupunsony, the mean temperature of November was found to be 82° .

No place included in this range, except a few summits, is high enough for the cultivation of the cerealia and fruit trees of Europe. Agriculture is accordingly limited to the cultivation of colonial products, and to the grains, roots, and vegetables common to hot countries; as rice, Indian corn, yams, mandioca, bananas, and the pine apple.

THE PLAINS OF THE RIVER ORINOCO.

13. The *Orinoco* surrounds the western portion of the Parime Mountains on the north and west and partly also on the south. This river rises nearly in the centre of the mountain region, but its source has not been visited by any European. It leaves the mountain-range near 66° W. long. and 3° N. lat., and from this point its course is known. About 20 miles from that place the river runs west and enters a plain; shortly afterwards it sends off a branch to the south-west, which is called Cassiquiare, and after a course of about 150 miles joins the Rio Negro. This channel constitutes a natural water-communication between the river systems of the Orinoco and the Amazonas. The current of the Cassiquiare is rapid and the depth considerable. The Orinoco continues to flow in a western direction, inclining, however, gradually to the north-west until it is joined from the west by the Guaviare. So far the river runs in a plain of alluvial soil with a gentle current; but at the junction with the Rio Guaviare it turns to the north, and for 150 miles it has formed its bed through a rocky country, which however does not rise much above the level of the plain, except near 5° N. lat., where an isolated summit, called Mount Uniana, attains a height of nearly 3000 feet. In this part of its course the current is very swift, and at two places

near Maypures and near Atures it forms long rapids. These rapids are impassable for boats, not so much on account of the fall of the waters as the numerous rocks and small islands, which are separated from one another by narrow and very intricate channels. The rapid course of the river terminates at Carichana somewhat north of its junction with the Rio Meta. Farther down no obstacles to navigation occur, except the Pass of Baraguan, where the river runs in a narrow channel with great rapidity. At the mouth of the Rio Apure it turns eastward, in which direction it continues to its embouchure. At the Boca del Inferno, near Muñitaca, there is a great whirlpool; but it does not occupy the whole channel of the river. At Angostura the river is narrowed to less than 100 yards, and here it runs with great rapidity, especially at the time of the floods, when it is said to flow at the rate of 8 miles per hour. Below Angostura no other difficulties occur; but there are numerous shoals in the wide bed of the river, and occasionally sunken trees. About 150 miles from its mouth, the river begins to divide into numerous branches. The most southern and widest of these branches runs directly eastward, and reaches the ocean by the mouth called Boca de Navios, between Point Barema on the south and the island of Cangrejos on the north, which are more than twenty miles apart. In front of this mouth is a bar on which is 17 feet of water, and which is supposed to be nearly 3000 fathoms across. In the month of April when the river is lowest, the tides are perceptible as far as Angostura, a distance of more than 280 miles. At the confluence of the Carony, about 200 miles from the sea, the water rises one foot and three inches. When vessels which draw much water ascend the river towards Angostura in the months of January and February with the aid of the sea-breeze and tide, they frequently take ground. The other branches which run northward and divide the delta of the Orinoco into numerous low islands are imperfectly known, but their number is very great. Ten considerable mouths at least occur between the Boca de Navios and the Boca de Manamo Grande, which is the most western of the channels. They are comprehended under the general name of Bocas Chicas (little mouths), and most of them may be navigated by vessels of moderate size. The whole delta of the Orinoco is covered with trees, especially the *Mauritia Palm* (*Mauritia flexuosa*).

The Guaviare, which rises on the eastern declivity of the Eastern Andes of New Granada between 2° and 4° S. lat., flows in an eastern direction about 500 miles, falling into the Orinoco near 4° N. lat. Little is known respecting its capabilities for navigation, but it is said to be connected with the Uapes, an affluent of the Rio Negro, by a natural canal. The Rio Meta, which joins the Orinoco farther north, is formed by a great number of rivers which descend from the eastern declivity of the Eastern Andes, between 4° and 7° N. lat., and running eastward joins the principal river between 6° and 7° N. lat. This river, as well as its numerous branches, are navigable for the greatest part of their course

nearly to the base of the Andes. The most northern of its tributaries, the Rio Casanare, not far from its source, approaches a frequent mountain-pass over the Andes, the Pass of Toxillo, which leads to Tunja and Bogotá. Where the Orinoco begins to turn to the east, it is skirted on the west and north-west by an extensive tract of very low and level country, into which several rivers descend from the south-west, west, north-west, and north. Within the low grounds these rivers unite by numerous transverse channels and join the Orinoco by several mouths. The largest of these rivers is the Apure; and these different channels are accordingly called the mouths of the Apure. The Apure rises in the Eastern Andes, where the mountains of Ocaña branch off, and runs east and south-east until it enters the low grounds, where it mingles its waters with those of the other rivers. This river, as well as the Rio San Domingo, one of its affluents, is much navigated; the other rivers also are navigable.

The *Plains of the River Orinoco* may be divided into two parts, the northern and southern. The Northern plain extends from the shores of the Atlantic on the east, between the river on the south and the Mountains of Venezuela on the north-west, to the base of the Eastern Andes. The Southern plain occupies the wide space between the Orinoco on the east, in that part of its course which is from south to north, and the Eastern Andes on the west. Its southern extremity may be fixed near 3° N. lat. These plains occupy about 160,000 square miles. As to their natural feature, they are divided into the treeless plains or Llanos, and the wooded plains. The Llanos occupy the whole northern plain and the western part of the southern plain, or that which extends over about half of the upper course of the Rio Meta; but south of that river they grow gradually narrower until they terminate near the sources of the Rio Guaviare. The Wooded Plains occupy the countries on both sides of the Guaviare, and extend over the lower course of the Rio Meta to the Rio Arauca, growing narrower towards their north-eastern extremity.

The surface of the *Llanos* is a complete level, except that in several places a few sandstone rocks of considerable extent project a few inches above the ground. Near the surrounding mountain-ranges it is about 300 feet above the sea, and thence it declines insensibly towards the Orinoco. It is destitute of trees, with the exception of a few *Mauritia* palms, which occur at great distances from each other. The banks of the river however are covered with bushes and high trees, many of which may be used for dyes, furniture, and building. These wooded portions of the Llanos have a fertile soil, and when they are cultivated, produce abundant crops of sugar, cotton, and tobacco; the remainder of the plain can only be used as pasture ground, and it feeds innumerable herds of cattle, horses, and mules. The Llanos present a different aspect in the rainy and the dry seasons. Towards the end of October, when the rains cease and the rivers have subsided, the plains are

covered with fine grass, which makes abundant pasture. But between the months of November and February a cloud never passes over the dark blue sky: the heat destroys all vegetation and dries up the pools and stagnant waters which have been left by the inundations. The earth is rent in deep and wide crevices, as if it had been shaken by an earthquake. The trade-wind, which then blows with the greatest force, and which at other times refreshes the air, only increases the heat by blowing over a surface covered with dust. It stirs up the fine sand which covers the surface, and forms it into dust-spouts, which traverse the plain in every direction. During this wind the thermometer rises from 92° to 96° , and within the dust-spouts themselves to 111° . The soil is so heated that a thermometer placed in the sand attains 126° . In this season mirages are very frequent. The animals in the pasture are tormented both by hunger and thirst, and many of them perish. When the sun approaches the equator, the blue of the sky grows lighter, and clouds appear towards the south above the horizon like distant mountains. They rise gradually like fogs towards the zenith, a distant thunder is heard, and the rain falls. In a few days the whole desert is covered with the finest turf, and the animals find abundant pasture. The rain descends in torrents from April to October, and is accompanied by violent thunder-storms, which generally occur two hours after mid-day. With the setting in of the rains the rivers begin to rise, and in the month of May the waters have filled their beds, and begun to overflow their banks. The inundation attains its maximum in July, and it maintains its highest level from the end of July to the 25th of August. During this time the waters cover the greatest part of the plain, and the spots which are somewhat more elevated are thronged by the animals which have retired before the rising flood: as they are obliged to get their food in the places which are inundated; many of them are killed by the caymans and water snakes. In the upper Orinoco the water rises from 30 to 36 feet; at Angostura from 24 to 25 feet. The inundations are most extensive in the flat country on the lower course of the river Apure, where they form a temporary lake more than 50 miles across in every direction, and deep enough for large vessels. From the end of August the waters gradually decrease, but more slowly than they rose. The mean annual temperature in the Llanos is 80° , and the difference between the rainy and dry seasons amounts only to 7° or 8° . The rainy season is hotter than the dry season. When the Spaniards first visited this country, all these plains were uninhabited, and even now their population is very small. Huts made of rushes and strips of leather occur at distances of several miles from one another, and are only inhabited by herdsmen. A few places are called towns, but their population hardly exceeds that of a European small village.

The *Wooded Plains* differ greatly from the Llanos. Their surface is somewhat hilly in several places, especially in the most southern dis-

tracts between the rivers Guaviare and Rio Negro, where steep rocks rise several hundred feet above the surface. The whole country is covered with high trees and impenetrable underwood, which is haunted by numerous wild animals. The mean elevation above the sea in the higher tracts is stated to be about 900 feet. The mean annual temperature is 83°. The air is never agitated by a breeze; rains descend daily, sometimes in torrents and sometimes in very minute drops, like dense mist: the annual quantity is between 90 and 100 inches. Perhaps the months of December and January are exempt from rain, but even then the sky is almost continually covered with clouds. These plains are extremely unhealthy on account of the stagnant air and the dense vapours which continually rise from the rain-drenched surface. They are almost entirely in possession of the native tribes, which consist of a small number of families, among whom a few monks have settled. The most south-eastern part of these plains, which is enclosed by the river Orinoco, Cassiquiare, Rio Negro, and Atabapa, is entirely uninhabited and covered with tall forest trees, which indicate a fertile soil.

THE PLAIN OF THE RIO AMAZONAS.

14. The Plain of the Amazonas is the largest in South America. On the north side of the river it comprehends the whole of its basin, extending to the southern declivity of the Serra de Acaray and the Serra Pacaraima, and being separated from the southern plains of the Orinoco by the higher grounds, which divide the upper branches of the Rio Negro from the rivers Orinoco and Guaviare. Towards the west it extends to the mouth of the river Huallaga and the Pongo de Manseriche. The southern boundary line is indicated by the cataracts which the southern affluents of the Amazonas form in their descent from the higher country south of the plain. These cataracts occur in the most eastern of its affluents, the Rio Tocantins, about 3° 30' S. lat., in the Rio Xingù between 4° and 5° S. lat., in the Tapajos between 5° and 6° S. lat., and in the Madeira River between 8° and 10° S. lat. The plains therefore extend on both sides of the river from its mouth near 50° W. long. to the Pongo de Manseriche near 76° W. long., a distance of above 1800 miles. The width of this plain varies; and it is much narrower towards the mouth of the river than further west. Between the cataracts of the Xingù and the Serra de Acaray it hardly extends more than 350 miles from south to north. Under the meridian of 64° it begins at the cataracts of the Madeira and extends northward to the southern branches of the Sierra Pacaraima over a space of more than 800 miles. It is probable that the width considerably enlarges further to the west, but in these parts the boundary of the plain on the south side of the river runs through countries which have not yet been explored.

The *Rio Amazonas* the largest river of the globe, intersects this plain

from west to east. It rises on the table-land of Pasco in the Lake of Tlacuicocha, and traverses the Peruvian Andes under the name of Marañon. After having left the mountains at the Pongo de Manseriche, it is above 800 yards wide, and it increases in width as it proceeds eastward. In the upper part of its course, west of the strait of Obýdos, the width increases to three miles, but a great portion of the bed is occupied by islands, many of which are several miles in length, though generally not wide: the river is thus divided into several channels. At the Strait of Obýdos, called the Narrows of Pauxis, the bed of the river is narrowed by some low rocks to less than a mile. Up to this strait the tides are perceptible. Below it the river is four miles wide, and after it is joined by the Xingù it appears more like a wide arm of the sea than a river. From the mouth of the Xingù the Amazonas runs about 250 miles in a north north-eastern direction, and enters the sea by a wide mouth called Canal de Braganza do Norte. This channel is intersected by the equator, and between the northern shores of the island of Marajo and the continent is about 50 miles wide. In the middle of this mouth lies the island of Caviana. Part of the waters of the Amazonas are discharged by the channel which surrounds the Ilha de Marajo, and which on the west of the island is called Tagypurà, on the south Rio das Bocas, and on the east Rio do Parà. The eastern shores of the Rio do Parà and the western shores of the Canal de Braganza are nearly 200 miles apart. The water which surrounds the islands of Marajo and Caviana is generally fresh, except at full and change, when it is brackish. The upper part of the river as far as the mouth of the Yavari, which forms the boundary-line between Brazil and Peru is called Marañon; thence to the mouth of the Rio Negro it has the name of Solimoes or Solimas; and from the Negro to its mouth it is called Amazonas. The depth of the river is very great: in the middle of the current no bottom is found with 20 fathoms as far as the mouth of the River Ucayali; and so far it is navigable for large vessels. Between that place and the Pongo de Manseriche it can only be ascended by vessels not drawing more than 5 or 6 feet. The rate of the current is pretty uniform through its whole course, being about three and a-half miles an hour when the river is full, but less in the dry season. The navigation of the Amazonas is favoured by the wind, which blows always in a direction exactly contrary to the stream, notwithstanding its windings, except during the gales, which are frequent and nearly of daily occurrence in January, February, and March. The gales are always attended with thunder and lightning, and blow from all quarters with dreadful fury; but they last only a short time. By means of the wind vessels ascend the river with ease, keeping out of the main current and close to either bank, where the current is less rapid. Sails are rarely used in descending the river, and the vessel is allowed to drift with the stream of the main-current. Many vessels are lost by running against the drift-wood which occurs in the river.

The Amazonas brings down to the ocean an immense volume of fresh water, owing to its course lying in an extensive plain near the equator and to the great surface of its basin, which, according to Humboldt, is above three millions of square miles, and is only one-seventh than the area of Europe. On the south this basin extends to 20° and probably not less than nine-tenths of the tropical rains which fall in South America south of the equator, are carried to this river. On the north its basin does not extend beyond 4° N. lat.; and although the river is always fed by the tropical rains, it is lowest when the sun is in the northern hemisphere. Though the tropical rains in the southern hemisphere begin soon after the autumnal equinox, they are not perceptible before November. The Marañón attains its greatest height in January, the Solimões in February, and the Amazon from the middle of March to the middle of April. The river continues for 120 days, and it sinks to its lowest level in June. In the greatest part of its lower course the difference between its highest and lowest level is 40 feet, but in some places it exceeds 50 feet.

15. That portion of the plain which lies north of the Amazon declines towards the bed of the river with a south-eastern aspect, and a slope west of 59° W. long.; but east of that parallel it slopes first to the south, and then to the north. Hence most of its tributaries which join it west of the mouth, especially the Iça, Yupurá, and Guainia, run for a great distance parallel to the main stream. The most important rivers within this portion of the plain are, from west to east, the Marona, Tigre, Napo, Iça, Yupurá, Guainia or Rio Negro, Oximinia, a small tributary. The Marona rises in the valley of Cuença, near the rapids of Asuay, runs about 300 miles, and joins the Marañón about 100 miles below the Pongo of Manseriche; it is not known how far it is navigable. The Pastaza, which receives its most remote waters from the valley of Alausi and Hambato, runs first east and then south, for 400 miles, and joins the Marañón about 30 miles east of the mouth of the Marona: it is not known how far it can be ascended. The Napo originates not far from the Volcano of Cotopaxi, runs south for 400 miles, and falls into the Marañón between 4° and 5° W. long. It is not known how far it may be navigated. The Napo rises to the south of the volcano of Antisana, runs more than 500 miles in a southerly direction, and falls into the Marañón west of 73°; it is rapid, and can be ascended by canoes to Sta. Rosa, about 100 miles from its mouth, whence a road leads to Quito through the mountain-pass of which is so high that it is never free from snow. The Iça or Içá receives its farthest waters from the mountain-knot of Los Paños, runs more than 600 miles mostly in an east south-eastern direction, and falls into the main stream by three branches, which lie between 71° and 68° W. long. The most western is called Cano de Atajuari, the middle Cano de Jacurapá, and the eastern, which is consid-

Principal mouth, preserves the name of the river. Its course is gentle, and it is considered navigable to within a short distance from its source. The Yapurá originates in the eastern declivity of the Sierra de Socobini, in the Paramo de Iscansè, near the source of the Rio Magdalena. The greater part of its course is mostly directed to the east south-east, and the greater part to the east, and it runs more than 800 miles, joining the Amazon between $67^{\circ} 40'$ and 65° , by two principal and several smaller branches: the western is called Avati paranà and the eastern Yapurá. This river has two rapids near 70° W. long., the Rapids of Cupati, which cannot be ascended at high water, and a cataract 60 feet high near 70° W. long., that of Arara-Coará. Above the rapids its course is swift, but below it is gentle, and navigated with ease. The waters begin to rise in April, attain their greatest elevation in July, begin to decrease in September, and are lowest from January to March.

The largest of the rivers of this plain is the Guainia, or Rio Negro, which originates in the hilly and woody country between 70° and 81° W. long. and 2° and 3° N. lat. It runs first north-east, but afterwards turns to the south-east and south. Where it turns south, it is joined from the east by the Cassiquiare (Guxiquiare), a branch of the Orinoco, which runs with great rapidity. Near the equator it is joined from the west by the river Uapes, or Vapas, and so far its channel is free from impediments to navigation. Below this confluence, the Rapids of S. Gabriel begin, which occupy nearly 70 miles, terminating at the village of Macarabé. For 12 miles, between S. Gabriel and Cinnanan, the river is so full of rocks, and its course so rapid, that the canoes can only pass them with great difficulty when the water is low; at high water it is impossible to ascend them. At the rapids the river begins to run more gradually, gradually inclining a little to the south. In this part of its course the current is gentle, and frequently imperceptible. In the lower part of its course, the Rio Negro has rather the appearance of a succession of lakes united by comparatively narrow channels than that of a river. At some places it enlarges to 12, 15, and even 20 miles in width, and at other times narrows to a mile. It is joined from the north by the Rio Branco, which originates in the Parime Mountains. At its mouth the Rio Negro is about one mile and a-half wide. Its whole course considerably exceeds 1000 miles. The waters are lowest in March; in April they begin to rise, and they attain their highest level in August; and in September they begin to fall. The difference between the highest and lowest level is about 30 feet. The sources of its greatest tributary, the Uapes, are not known, but according to the information obtained from the Indians, they are near 73° W. long., in a country which is rich in gold. It is, however, maintained by the Indians, that its largest supply of water is brought down by a channel, which branches off from the Rio Guaviare, an affluent of the Orinoco. This channel, which constitutes a second natural water-communication between the Orinoco and

Amazonas, has not been visited lately, but it was once navigated by a Portuguese named Cabuquena, and is called the Channel of Cabuquena. The course of the Uapes lies to the east, and near 70° its bed is crossed by a ledge of rocks, which produce some rapids that extend for six miles, and can only be passed at the time of the floods. Its course is supposed to be about 500 miles.

The Orixí-mina, or Rio das Trombetas, has not been ascended to its source, which is supposed to be on the southern declivity of the Purus Mountains; about 100 miles from its mouth rapids and cataracts commence, which are stated to render a considerable part of the course quite unfit for navigation. It enters the Amazonas a little above the Strait of Obydos. The Rio Gurupatuba, which falls into the Amazonas below the Narrows of Pauxis, is similar to the Orixí-mina.

The Plain drained by the northern affluents of the Amazonas, may be divided into two regions; their common boundary is indicated by the rapids which occur in the rivers Yupura, Rio Negro, Rio Branco, and Orixí-mina, at the places above mentioned. The country north of them presents a different aspect in the western and the eastern portion. The western portion, which is west of the basin of the Rio Branco, must be considered as a continuation of the wooded plain of the Orinoco. If the whole of the plain is viewed together, it appears that at its most northern and southern borders (the cataracts of Atures in the Orinoco, and those of S. Gabriel in the Rio Negro), it is about 600 feet above the sea-level. The highest part of it occurs where the Cassiquiare branches off from the Orinoco, at which point it is more than 1100 feet above the sea. Its surface, south of Guaviare, is much more uneven than farther north. Tracts of considerable extent are covered with large rocks, or rocky hills rising to an elevation of 400 or 500 feet, but not forming continuous ranges. The most extensive of these rocky and hilly tracts exist about the sources of the Rio Uapes. Both the level grounds and the rocky tract are covered with high trees and impenetrable underwood. Notwithstanding the imperceptible slope of this region there are no lakes of any extent in it, and there are only two natural water-communications between the Orinoco and Amazonas, the Cassiquiare, and the canal of Cabuquena both of which run southward from the Orinoco and Guaviare to the Rio Negro and Uapes. This shows that the most elevated part of the plain must lie near the southern bank of the two first-mentioned rivers. The climate differs somewhat from that of the wooded plain of the Orinoco. The mean annual temperature does not exceed 73° in the day, nor 70° in the night. The annual quantity of rain amounts to between 90 and 100 inches; and it is nearly continual during the whole year, except in December and January. In the night a breeze is never experienced. The superabundance of rain, joined to the interminable wood, maintains moisture which produces a vigorous vegetation, and is favourable to the wild animals and reptiles that infest this country, but it is injurious to the

an. This country accordingly contains very few European settlements, though some were established nearly 200 years ago. The country to Rio Branco and that east of it, to the shores of the Atlantic, is perfectly known, but we are informed that the greatest part of it is without trees, and extends in grassy plains, which supply excellent pastures. The climate seems to be more favourable to man, as the rains are more regular: but the whole country is still almost entirely unknown to the native tribes, except in the most eastern districts along the coast, and where it comes up to the very banks of the Amazonas, in the town of Almeirim.

The northern portion of the Plain north of the Amazonas, extending from the town of Almeirim to the Rio Napo on the west, up to the line marked by the rapids of the rivers, is extremely level. Hills are known to exist on it except at the most eastern extremity, where the hills of the Serras de Parù, west of Almeirim, are several hundred feet high. The surface, however, does not present one level, like the Llanos of the Orinoco: it consists rather of a gradual succession of slight undulations. The soil is a thick vegetable mould or red clay; in several parts sandstone is exposed on the surface. The greater part of the country is covered by water, and is subject to inundations from the rivers. It is not far from the banks of the rivers these inundations extend a great distance beyond the limits of the inundations there is a number of lakes, and some of considerable extent, which when the river is low discharge their water into it, but when it is full receive the waters of the river, and by overflowing their banks inundate the country to a great distance. The soft soil yields readily to the waters, and thus innumerable channels have been formed, so that all the rivers join their recipient by more than one branch, by four or five. Between two rivers there are generally several communications, which when the river is low, are mere channels, but when the waters are high, increase the extent of the inundations. Between such transverse channels occur between the Yupurà and the Rio Negro. In some of these channels the current runs in different directions at different seasons, according to the high or low state of the waters of the rivers which are connected by them. Such a channel is the northern mouth of the Yupurà, called the Avatiparanà, in which from November to June the waters flow from the Amazonas to the Rio Negro, and from June to August from the Yupurà to the Amazonas. A small island formed by this channel and the rivers is intersected by several channels, which extend in the same direction and are subject to change in the current. As the surface of the island is very low, the whole of it is under water at different seasons. In this country along the rivers is intersected by a net-work of water-courses which carry the inundations to a great distance from the banks

of the rivers, even when they rise above the line of the inundations, is commonly the case, especially along the Rio Negro. The whole region is covered with wood, except on the low banks of several lakes, which during the dry season are generally covered with grass, and supply good pasture, and on the banks of the Rio Napo, where some savannahs of considerable extent occur. South of the upper course of the Iça, some offsets of the Andes of moderate elevation advance a considerable distance within the plain.

16. That portion of the Plain of the Amazonas, which is situated south of the main stream, resembles in every respect the lower portion of the plain which is north of it. But east of the River Tapajos the low and inundated country does not extend to a great distance from the Amazonas, as savannahs are found about 50 miles from the river. In this part also the connecting channels between the rivers are not numerous, and occur only at a short distance from their mouths. But the number of such channels as well as the lakes increases west of the Rio Tapajos, and this part of the plain is nearly entirely covered with water from December to May. It is an immense swamp, which extends on both sides of the Madeira, and thence westward to the foot of the Peruvian Andes, over the countries drained by the rivers Purus, Coary, Teffe, Iurua, Yutry, and Yavari. Towards the mouth of the last-mentioned river and on its western bank there is an extensive tract above the level of the inundations. This is called the Pampa del Sacramento, and it seems to be the northern and lower continuation of the Cordillera del Este, which encloses the upper branches of the Ucayali. The rivers which drain the swampy country have not been ascended; but the great volume of water which they bring down, shows that they have a long course, especially the Purus, which falls into the Amazonas with four branches, each more than a mile wide and of great depth, and the Yavari, which is navigable for large boats for about 200 miles from its mouth.

All the country inundated by the Amazonas and its tributaries is covered by an uninterrupted forest, under which there is a compact underwood: the whole is tied together by innumerable creepers, and thus is formed a vegetable wall, through which it is impossible to penetrate. The water-courses are the only roads which lead through this maze. Some portions, indeed, are not subject to inundations, but they are covered with forests, in which the trees are generally of one species, more equal in size, and without underwood, though here also the creepers are numerous. Occasionally some tracts of moderate extent occur, which are without trees and covered with rich grass, intermingled with a few low bushes.

The island of Marajo, which is situated between the two branches of the Amazonas at its mouth, covers a surface of more than 10,000 square miles. The north-eastern part, which is nearly one-half of it, is somewhat elevated, without trees, and affords pasture to numerous herds of

cattle ; it resembles the country west of the Canal de Braganza. The south-western part is low, intersected by numerous small rivers and creeks, and presents a maze of water-courses ; it resembles the country south of the Rio das Bocas, and west of the Channel of Tagypurà. The island of Paricatiba lies in the Amazonas, west of the mouth of the Tapajos River, and is bordered on the south by a large lake, that of Campinas, and two wide and navigable channels, which unite the lake to the Amazonas and Tapajos rivers. It contains about 900 square miles, being nearly equal to the county of Surrey in extent. Nearly the whole of it is covered with plantations of cacao. The island of Tupinambaranas lies farther west, and is separated from the mainland by a large *fierro* or channel, called the channel of Urarià, which at its eastern extremity joins the Amazonas, and at its western is connected with the Rio de Madeira, the greatest of the affluents of the Amazonas. This island extends nearly 250 miles in length, but is comparatively narrow. Its surface, which is above 5,500 square miles, is low, covered with trees, and intersected by many channels communicating with the Amazonas and the channel of the Urarià.

Though the great fertility of the soil and the climate are favourable to the cultivation of every kind of intertropical productions, a very small portion of this plain is cultivated. The whites and the native tribes cultivate several kinds of mandioca and plantains for food, and a little Indian corn : rice is only grown in a few places. Fish and turtle constitute a great part of their food. As articles of commerce there are cultivated tobacco, coffee, sugar, cacao, and cotton. The forests contain many fruit-bearing trees, and wood suitable for dyes, furniture, or building, especially many kinds of palms, among which the *Mauritia flexuosa* and the *Guilielma speciosa* are very frequent : they also supply some articles of exportation, as wild cacao, sarsaparilla, Brazil nuts, clove-cinnamon, and different kinds of dye-woods.

The lower plain of the Amazonas, which even on its extreme borders hardly attains the elevation of 700 feet above the sea and extends on both sides of the equator, differs in climate considerably from other countries similarly situated ; there is also some difference between the eastern and western portion of it. Near the ocean and as far inland as the Strait of Obydos, the dry and rainy seasons are not so distinctly marked as in Asia and Africa ; nearly every day exhibits both. In the night no cloud covers the sky, and this serenity continues till the morning ; but the atmosphere is, nevertheless, filled with moisture. Between 9 and 10 o'clock clouds begin to appear on the horizon, and gradually approach the higher parts of the sky ; after mid-day the hurricane begins to roar, thunder and lightning follow in uninterrupted succession, and the rain comes down in torrents. The heat during these phenomena is oppressive ; but in a couple of hours the equilibrium of the air is re-established, and the sky assumes its former serenity. The rains, however,

are much less abundant and the weather more constant from June to October. The rains increase during the month of November, and continue to be equally abundant till the end of March. Fogs are very frequent throughout the year. The mean annual temperature is 83°. West of the Strait of Obydos the seasons are more regular. The rains are far from being abundant between June and December, especially between July and October. The east wind, which does not set in before July lower down the river, begins here in June and lasts till December. It increases in force as it proceeds westward, and at the foot of the Andes it has the strength of a gale, in which it is hardly possible to maintain an upright position. This east wind, which is a continuation of the south-eastern trade-wind, is loaded with moisture when it reaches the land, but it is a dry and cool wind when it has passed the Strait of Obydos. It refreshes the air during the early part of the day, and towards evening the heat is diminished by thunder storms. The mean annual temperature is 80°, and the annual quantity of rain 80 inches. The country along the banks of the Amazonas is considered healthy, owing to its being more elevated than the tracts at some distance from them, and also owing to the greater force with which the east wind blows there. The low swampy country west of the Madeira River is not visited by the east wind; and probably this circumstance, combined with the neighbourhood of the Andes, is the cause of its being almost continually drenched with rain and of its great unhealthiness. Owing to the rain, which falls up to a great elevation on the eastern declivities of the Andes, they are clothed with a vigorous vegetation of lofty trees; the western declivity towards the Pacific, which receives no rain, is bare. All through this region the trees are never without leaves; while they are shedding the old ones, new leaves are forming. Most of the trees and plants, especially those which are peculiar to a tropical climate, blossom between November and March, and bear fruit between June and September.

THE MOUNTAIN SYSTEM OF BRAZIL.

17. This extensive region, which covers one-fourth of the surface of South America, is surrounded on the north, east, and south by the Atlantic Ocean; on the west it is divided from the Andes by the Central Longitudinal Plain and the Plain of the Pampas. Only about one-fifth of the whole has a mountainous surface: the remainder is either hilly or plains. Two plains of considerable extent are embosomed in it: one is low, and occurs at the northern extremity of the system; the other, which is elevated, is towards the south. The whole region may be divided into five sections: the mountainous region, which occupies the central districts; the hilly region, lying north of it; the northern region; the plains of the Rio Paraná; and the southern region.

The *Mountainous Region* begins on the shores of the Atlantic, be-

tween the Bahia do Espirito Santo, near 20° S. lat., and the Punta Grossa, near the port of Santos, in $24^{\circ} 50'$ S. lat. It stretches from the sea, in a north-west direction, to the border of the plains of the Rio Amazonas. The northern boundary of this region may be indicated by a line running from the Bahia do Espirito Santo north-westward to the confluence of the Rio Francisco and the Rio das Velhas, and thence to the southern extremity of the island of Sta. Anna, which is formed by the Rio Araguaya, and from this point to the Salto Grande of the Tapajos, which occurs in that river near $7^{\circ} 30'$ S. lat. The southern line may be drawn from the Punta Grossa to the confluence of the Rio Paraná with the Rio Parahyba, and from that point to the union of the rivers Guapore and Beni. A line drawn from the neighbourhood of the last-mentioned point to the Gran Salto of the Rio Tapajos would indicate the place where the mountain-region borders on the plains of the Amazonas and the Longitudinal Plain.

This region rises from the Atlantic by two steep terraces. The first is formed by a range of mountains which run parallel to the coast, and are in no part more than 20 miles from it. This range is called Serra do Mar (Sea Range); its highest summits are about 5000 feet above the sea, and the passes over them are from 2000 to 2500 feet. This range is separated from the second range by the valley of the Rio Parahyba. The second range runs nearly parallel to the Serra do Mar, at a distance from the sea varying from 40 to 100 miles; it is called Serra Mantiqueira, and is united to the Serra do Mar north of the Porto de Santo by a transverse ridge. This range contains the highest summits of the whole mountain system. The Pico dos Orgaos rises to 7786 feet, the Morro de Papagaio to 7466 feet, and another summit, which has not yet been distinguished by any name, to 8426 feet. Near 23° N. lat. the range turns to the north, and is considerably lower, its highest summit, the Itacolumi, rising only to 6080 feet: here it is called Serra do Espinhaço (the Back-bone Range). The passes over this chain attain upwards of 3000 feet. The coast of this whole tract is rocky, and in some parts very high; it contains many indentations and excellent harbours, generally surrounded by flats of moderate extent. Though the surface is partly covered by rocks, the valleys and intervening flats contain large tracts of fertile ground, which, in their natural state, are covered with tall trees, and when cultivated give rich crops of the common tropical products. The climate is moderate, the mean annual temperature not exceeding 74° , though in summer (in January and February) the thermometer occasionally rises to 100° and 110° . In summer the average heat at noon is 86° , and in the morning 72° ; in winter it is 72° at noon, and in the morning 59° . No part of the year is entirely exempt from rain, though the winter is often dry and the sky cloudless. The rains in the summer are very abundant, especially in January; and violent thunder-storms are then frequent.

storms, and lasts till April; the annual quantity of rain, however, is not so great as on the coast. The mean annual temperature is only $65\frac{1}{2}^{\circ}$; but in January it often rises to 100° at noon. The difference between the temperature in the day and the night sometimes amounts to 30° . In the winter the air is serene, and there is no rain; but sometimes in the month of June or July frost occurs, especially in the more elevated districts contiguous to the Serra dos Vertentes, and destroys the crops of coffee and cotton. Thunder-storms only occur in the rainy season. The winds are irregular at all seasons, and frequently bring dense fogs. Agriculture is almost limited to tobacco, mandioca, Indian corn, beans, and cotton. The last-mentioned article, as well as horses, cattle, hides, and salt beef, are exported. The mineral wealth of this region consists of gold and diamonds and a number of precious stones.

18. The *Hilly Region* borders the Mountainous Region on the north. Its northern boundary is formed by the lower course of the Rio San Francisco from its mouth to the town of Joazeiro, near 10° S. lat., where it runs due west along that parallel to a ridge of low mountains which run northwards along the eastern border of the valley of the river Tocantins, and terminate in the parallel of the most northern cataracts of that river ($3^{\circ} 30'$ S. lat.). The coast of this region is level, rising only in some places a few feet above the water, except north of the Bahia de Todos os Santos (All Saints Bay), where it generally attains a somewhat greater elevation. The country contiguous to this coast, and to a distance of from 50 to 100 miles from the sea, rises slowly towards the west. Its surface is very irregular, and in many parts even hilly; but the level tracts occupy the greater part of this country. In its natural state it is entirely covered with woods of high trees; and when cultivated, the soil, which is mostly alluvial, produces every kind of tropical plants in abundance. The mean annual temperature in the southern districts does not much exceed 70° , but towards the north it increases to 76° , and even to 78° . The mean temperature in summer is about 86° . The rains commence in the month of September, and terminate in March; but even during the other months of the year showers occur occasionally. During the rainy season the sky is cloudless and serene in the early part of the day, but in the afternoon the rain usually pours down in torrents. The sea-breezes blow chiefly in the morning and evening, and they cool the air, which gets warmer during the night.

The rivers in this tract are very numerous, but their course seldom exceeds 200 miles. They are generally navigable for 50, 60, or even 80 miles inland, and, in descending from the higher plain lying farther west, they form cataracts and rapids. Nearly all of them inundate the adjacent low tracts from November to January. The largest river is the Rio Belmonte, which is formed by two large branches, the Arassahy and Jequetinhonha, which rise within the Mountainous Region. In the last-mentioned branch a great number of diamonds are found.

In ascending from the higher country, the Rio Tocantins forms a cascade about 120 feet high.

At the base of the inclining tract which borders on the sea, the country rises with rather a steep ascent to about (500) feet above the sea-level, and then extends in a plain to a distance of about 200 miles from the shores. The plain is not quite a level, and ridges of hills, as well as depressions, occur in several places. The soil consists of a thin layer of red clay, frequently mixed with sand, and here and there are boulders of granite; vegetable-mould occurs only in the depressions. A very small portion of this plain is adapted to agricultural purposes. Only the lower part contains trees of high growth. The plain itself and the hills are mostly devoid of vegetation. In some places there occurs a single cactus, or single bushes and low trees. The rains fall nearly in the same months as on the coast, but they are far from being abundant, and sometimes two or three years pass without a drop of rain, and the country suffers much from want of water. The water which is collected in the depressions during the rains is brackish, and frequently not good enough for cattle. The trees lose their leaves during the dry season, and get new ones when the rains set in. Large rivers are rare, and the small ones have only water during the rains; even the larger ones are frequently without water during the dry season. Towards the ridge which constitutes the western border of this tract, there are many brooks containing salt water. The ridge which divides this tract from the valley of the Rio San Francisco is of moderate width, and rises about 2000 feet above the sea-level. It may be considered as a continuation of the Serra do Espinhaço, and is called in its northern parts Serra de Thiuba. The greatest part of this range is covered with high trees.

The Rio de Francisco rises on the northern declivity of the Serra dos Vertentes, about 3000 feet above the sea, near 20° S. lat., and runs chiefly in a north direction with a rapid course, until it unites with the Rio das Velhas, near 17° S. lat. At the junction with this river the San Francisco is 1708 feet above the sea; farther down it is less rapid. At San Romão (about 16° 2' S. lat.) the river becomes navigable for large river barges, and has a very gentle current. At Joazeiro, 500 miles from its junction with the Rio das Velhas, it is still 1000 feet above the sea. It continues to be navigable to Vergem Redonda, where the navigation is interrupted by several falls; but even above the falls the navigation is often very difficult, on account of the shallowness of the water. Below Vergem Redonda the river, being narrowed by high rocky cliffs, runs with great rapidity, and forms several falls, of which the Cachoeira de Afonso, the most considerable, is said to be 50 feet in perpendicular height. The cataracts and rapids occupy a space of nearly 70 miles of its course, and terminate at the Aldea do Caninde, whence a road leads to Vergem Redonda, for the transport of merchandise from the interior of Brazil. From the foot of the rapids to its mouth, the river

runs still about 200 miles, and the navigation is not interrupted, but the current is rapid. It enters the sea by two mouths of unequal size, of which the northern and larger is nearly two miles wide, but has so little depth that only vessels of 60 tons burden can enter it at high water. The valley of the river in the upper part of its course is fertile, and produces mandioca, Indian corn, and plantains in abundance; it is less fertile farther down, and the crops are frequently destroyed by want of rain, or by sudden inundations. The greater part of it serves as pasture for horses and cattle. On the left bank, for about 250 miles south of the town of Joazeiro, there are salt-steppes, in which the salt appears in the form of an efflorescence, and is collected by the inhabitants for sale, being an article of export to other parts of Brazil. This river begins to rise in January, and continues to rise for two months; it then falls more rapidly than it rose. No rain falls in the valley of this river from August to December. The valley itself is only from six to eight miles in width, but in some places the water penetrates farther inland by several channels, by which the adjacent hills are divided from one another. The inundated part of the valley is very fertile, and favourable to the cultivation of sugar. The whole course of the Rio de Francisco may be about 1300 miles, and it may be compared, as to length, with the Danube. The tide ascends it about 50 miles from its mouth, and it rises at Villa de Pinedo, where the river is about one mile wide, three feet at full and change.

The country west of the valley of the Rio de San Francisco, comprehending the middle basin of the rivers Tocantins, Xingù, and Tapajos, may be considered as an elevated plain sloping from south to north, and traversed by higher grounds of great width but moderate elevation. The higher portion of the plain, or that which is contiguous to the mountainous region, may be 1500 feet above the sea; but on the north, where it joins the plains of the Amazonas, it sinks much below 1000 feet. The higher grounds are huge swells rising with a gradual ascent about 500 feet above the adjacent river-valleys, and their slopes are very long and gentle. On these broad-backed elevations some isolated ridges of hills occur. Extensive portions of this country are covered with sand, and they are entirely destitute of vegetation, at least in the dry season; other tracts are covered with a fine grass during the rains, but it withers in the dry season. Some parts are overgrown with bushes and shrubs, and others with forests of low trees, which lose their leaves in the dry season. The upper part of the high grounds is always destitute of trees and shrubs, and covered with a coarse grass only in the wet season. The want of water during the greater part of the year is an impediment to cultivation. Many of the smaller rivers have no water towards the end of the dry season, but the valleys by which they descend from the higher grounds contain forests which do not lose their leaves. The rains begin in the month of November, and last till April; but they are by no means abundant: the rains are often accompanied by thunder-storms. During

the dry season the more elevated parts experience a considerable degree of cold, and the plantations of plantains, sugar-cane, and cotton suffer by it, which renders their cultivation precarious. The heat in summer is very great; but the changes from cold to heat are gradual, and not injurious to health. The capability of the soil is not known, as the settlements of the whites are few, and most of the inhabitants are occupied with their herds of cattle and horses; cotton, however, succeeds well, and is exported in small quantities.

The Rio Tocantins rises in the mountain-region on the northern declivity of the Serra dos Vertentes, with many branches. The upper course is called Rio Maranhão: it takes the name of the Tocantins after its junction with the Rio Paranatinga. It becomes navigable south of 10° S. lat., but the navigation is frequently interrupted by rapids. Near 5° S. lat. it is joined from the west by the river Araguaya, after which junction it flows between rocks and cliffs, forming many rapids and small cataracts, to $3^{\circ} 30'$ S. lat.; the last cataracts are a great impediment to navigation, as several of them rise above one another like terraces. Below them the Tocantins enters the plain of the Amazonas, and falls into the Rio da Parà, by two mouths, which are divided from one another by a long and low island. The eastern branch is called Bahia de Maratana, and the western Bahia de Limoeiro. The width of the river at its mouth, including the island, is not less than 15 miles. The largest of its tributaries, the Rio Araguaya, rises in the Serra Seiala, with many branches, of which the Rio Vermelho is used as a channel to transport merchandise from Villa Boa to Parà. In $12^{\circ} 30'$ S. lat. the Araguaya divides into two branches, which re-unite in $9^{\circ} 36'$, and enclose the island of Sta. Anna, which is more than 200 miles in length and of a considerable width. The western arm preserves the name of Araguaya, and the eastern takes that of Furo; barges generally go through the latter. Though there are small falls in the Araguaya, it is navigated with more ease and less danger than the Tocantins. The Araguaya runs above 1000 miles, and the Tocantins more than 1500 miles. These rivers begin to rise in November, overflow their valleys in December, attain their highest level in January and February, and re-enter their beds in June.

The Rio Xingù rises probably near 15° S. lat., but its sources have not been visited by Europeans, and its upper course is unknown. Between 5° and 4° S. lat. the bed is narrowed and traversed by some chains of rocks, which produce the cataracts that occur in this part of the river, and make it form a large bend to the south-east. It joins the Amazonas at Porto de Moz, where it is about 4 miles wide.

The Rio Tapajos has lately risen to importance as a navigable stream. It is formed by the confluence of two considerable rivers, the Juruena and the Rio dos Arinos. The last-mentioned river and one of its affluents, the Rio Preto, constitute the channel by which merchandise is

ught from Pará to the European settlements on the banks of the Apore, the Paraguay, and the San Lourenço. After the junction of Juruena and Rio dos Arinos, the river is called Tapajos. It forms several falls before it reaches the Plain of the Amazonas. The largest of these falls, called Salto Grande, occurs about $7^{\circ} 30'$ S. lat., and is said to be 30 feet in perpendicular height. Between 5° and 6° S. lat. there is another fall, called Cachoeira de Maranhão, which interrupts the navigation. At these two places there are portages; but the other smaller falls may be ascended by barges. Below the last-mentioned the river runs through the Plain of the Rio Amazonas, which it joins below Santarem: at its mouth it is about 4 miles wide. It begins to overflow its banks in January, attains its greatest height in March, and sinks to its usual level in July.

19. The *Northern Region*, which extends from 10° S. lat. northwards to the ocean and the Rio da Pará, is divided into two sections, of which the western is a plain and the eastern is a hilly country. The dividing line between them is formed by a continuous range of high hills. This range, called Serra Ibiapaba, rises not far from the northern coast between 35° and 41° W. lat., and runs southwards to near 9° S. lat., where it turns to the east, forming the northern border of the valley of the Rio San Francisco to its mouth. The latter portion of the range is called Serra Araripe, and the whole of it encloses the eastern hilly section on the west and south. Another range divides it nearly in the middle, beginning on the north near Cape de San Roque, and running south-westwards until it joins the Serra Araripe near 38° W. long. It is called Serra de Borborema. The country included by this range and the Serra Araripe can hardly be called hilly, though it is far from being level. On the coast it is low, with considerable portions of fertile soil, but in many parts the inhabitants suffer from a want of water. The interior consists mostly of low and broad-backed ridges, with flat depressions between them, and a few isolated hills which are dispersed over the whole. The upper part of the mountains is clothed with high trees, whose vigorous growth indicates the fertility of the soil. Agriculture is limited to these tracts and to the narrow alluvial strips along the rivers: these tracts produce cotton, sugar, mandioca, Indian corn, and tobacco, with bananas and some rice. A great part of this country, however, is covered with stunted trees or coarse grass; and it is still in its natural state. On the declivities of the Serras de Borborema and Araripe there are extensive tracts covered with grass, where numerous herds of cattle find pasture during the greater part of the year. The climate does not differ from that of the coast farther south, except that the rains are less abundant: most of the rivers have no water in the dry season, and the interior also suffers much from the want of water.

The country between the Serra de Borborema on the east and the Serra Ibiapaba on the west has a much more broken surface, except

along the coast, where it is likewise level. The remainder is covered with high hills, sometimes running in ridges, and sometimes isolated. The higher part of these hills is covered with tall trees, but the lower tracts between them produce nothing except a coarse greyish grass and a few bushes. This country differs considerably in climate from the country east of the Serra de Borborema. The rains commence in January, and continue only to April, during which season the country has a pleasant aspect, but between the months of August and December it resembles a desert. Sometimes, and as it appears in decennial periods, there is no rain at all. The Serra Ibiapaba is mostly covered with forests of timber-trees, and has a fertile soil, but no part of it is under cultivation.

On the west of the Serra de Ibiapaba extends a plain which measures from north to south upwards of 600 miles, and from west to east more than 400 miles in the widest part. It may be called, from the largest of its numerous rivers, the *Plain of the Parnahyba, or Paranhayba*. The surface is uneven, frequently rising into hills several hundred feet high, which in some parts spread out into spacious table-lands. The southern portion of the plain, which is between 600 and 800 feet above the sea, is the most level part and almost entirely covered with soft grass, interspersed with bushes and mauritia-groves on the swampy meadows. It contains extensive cattle-farms, and is well known for its dairies. The northern part, the surface of which is more broken, contains some lofty trees, but the forests are of small extent, and are separated from one another by large plains destitute of trees, and overgrown with high greyish grass and a few bushes. These lower districts are favourable to the growth of cotton, the soil being rather dry and sandy. The climate of this plain is hot; in January and February the thermometer frequently rises above 100° and sometimes to 110°. The mean annual temperature is about 85°. The rains begin in October, and increase gradually to February, when they are most abundant; they terminate in April, but even in May it generally rains between three and four o'clock in the afternoon.

The Rio Parnahyba originates in the most southern angle of the plain near 10° S. lat., and traverses it in a diagonal line from south-west to north-east. Having no falls and only a few rapids, it is navigated by vessels of 15 to 40 tons, as far as its junction with the Rio das Balsas, which is about two-thirds of its course, and up to this place there are numerous European settlements on its banks. It enters the sea by five mouths, the most remote of which are 30 miles from each other, but they are not more than from 2 to 4 fathoms deep and only moderate-sized vessels can enter them. This river runs upwards of 600 miles. The Rio Itapicuri, which is further west, runs not much more than 300 miles, but for nearly 200 miles it is much navigated by large river barges. It falls into the Rio do Mosquito, a channel which divides the island of Maranhão from the continent.

20. South of the Mountainous Region extends the *Plain of the Rio Paraná*. On the west it is enclosed by a mountain-range, which branches off from the western extremity of the Serra Sejada in a south-western direction, but soon turns to the south, and advances in that direction along the meridian of 56° to 24° S. lat., where it turns to the east and terminates on the banks of the Rio Paraná at the Salto de Sette Pedras. Where it runs south and north, it is called Serra Amambahy; and where it runs east and west, Serra de Maracayú. This range is probably about 3000 feet above the sea. The eastern boundary of the plain of the Rio Paraná is formed by the continuation of the Serra do Itaipu, which runs in a west south-west direction along the shores of the Atlantic to the Bahia de Paranaguá, and is here called Serra de Cubatão. At the head of the Bay of Paranaguá there are some high mountains from which a main range runs directly west, near 25° S. lat., called Serra Dourada; this range terminates on the banks of the Paraná, near the Salto de Sette Pedras.

The coast between the Punta Grossa and the Bahia Paranaguá is generally high and rocky, as the short offsets of the Serra de Cubatão frequently advance to the shores of the Atlantic, which are much indented by short inlets that form excellent harbours, and in many places surrounded by extensive flats of great fertility. This broken country between the sea-shore and the mountainous range, in some parts extends for 40 miles inland, and resembles in climate and productions the country which separates the Mountain Region from the Atlantic Ocean. An ascent of nearly 3000 feet leads to the Plain of the Rio Paraná. This plain does not sink much below the level of the mountains, its eastern and higher portion being more than 2000 feet above the sea, while its western districts maintain an elevation of 1500 feet. Where the plain lies contiguous to the Mountain Region and the Serra de Cubatão, it presents a broken surface, steep and rather high hills occupying the highest portion of the ground between the rivers by which it is watered. But farther west it stretches out in levels of great extent, which are only interrupted by isolated hills of very gentle ascent and small elevation. The southern part towards the Serra Dourada is an extensive level plain called the Plain of Guarapuaba. In the plain of the Paraná there are forests only on the declivities of the mountain-ranges and along their base, especially on the east and west; in the level tracts they are limited to the banks of the rivers and to the declivities of the hills; the forests cover probably much less than one-fourth of its surface, the plain of Guarapuaba being entirely destitute of wood. The level grounds are overgrown by a coarse but nourishing grass, interspersed with low bushes and a few small isolated trees. They serve as pasture-ground for the innumerable herds of cattle, horses and mules, which constitute the wealth of this plain. Agriculture is not neglected, but it

is limited to the culture of mandiocca, Indian corn and different kinds of beans ; wheat and flax are grown in the southern districts.

The variation of the temperature is greater than in the countries farther north, but neither the heat nor the cold is excessive. The mean annual temperature is between 60° and 70° , and even in summer the thermometer rarely rises above 80° . In the winter, from May to October, hoar-frost is only common near the mountains, and it never occurs in the plains. During this season the winds blow from south south-west to south-east, but in summer they are irregular. In the eastern districts the rains commence in October or November, and last to April; they are most abundant in January, and then always accompanied by fogs during the morning. In the western districts the rains begin and cease later. At first it rains only during the night, and afterwards in the afternoon, and then alternately in the night and in the day ; sometimes for several days and even weeks it rains without cessation.

The Plain of the Rio Paranà has a great advantage over the countries further north, owing to the number of its perennial water-courses. Most of them rise in the south-eastern portion of the Mountain Region, especially in the Serra de Mantiqueira, and running westward enter the elevated plains : they all unite their waters with those of the Paranà. The principal branch of this river rises, under the name of Rio Grande, on the western declivity of the Serra de Mantiqueira, and runs in a general western direction more than 500 miles, when it is joined on the right bank by the Paranahyba, and from this junction it is called Rio Paranà. Many miles below this confluence it forms a considerable cataract, called Urubì Punga, and lower down it receives from the left the Tiete, which traverses nearly the middle of the plain. This affluent runs upwards of 400 miles in a westerly direction, and though the navigation is rendered difficult by numerous rapids and waterfalls, it has hitherto been more navigated than any other river which traverses the interior of the mountain system of Brazil. Further south the Paranà is joined from the west by the Rio Pardo, which likewise is much navigated notwithstanding the numerous rapids. At 24° S. lat. the river is nearly 4 miles wide, but it gradually contracts to one mile, and is suddenly narrowed by projecting rocks to 100 yards. Here the river forms a great cataract called the Salto Grande de Sette Quedas, from the fact of the channel being divided into seven channels by six small rocky islands. The fall is from 50 to 60 feet high, and impedes all communication by water between the table-land and the countries farther south. Between the Urubù Punga and this water-fall the river may be navigated with ease and without danger. Below the Salto Grande the river for many miles is nothing but a succession of falls and rapids, which clearly indicate that in this part it descends from a higher to a lower level. The last of this series of rapids occurs at the mouth of the Rio Iguassù or Curitiba, and

called the Salto Iguassù. Lower down the current of the Rio Paraná continues to be rapid, though it is less interrupted, and it may be navigated, but not without great difficulty, even where it turns to the south-east. The last cataract of this river is opposite the island of Apipé, about 100 miles above its junction with the Rio Paraguay. It may be navigated from the island of Apipé by vessels of large burden.

The country *South of the plain of the Paraná*, between 24° and 28° S. E., may be considered as an appendage of that plain, which it resembles in climate and productions. It contains the basin of the river Iguassù, and that of the upper course of the Rio Uruguay, besides the coast which extends from the Bahia de Paranagua to the Morro de Santa Marta. The coast, which here runs south and north, resembles in climate and productions that which lies farther north; but the mountain range, which divides it from the country to the west, retires further from the shores, in some places to a distance of 60 miles, so that the valleys between the off-sets of the mountains which generally terminate abruptly at the shores, are of much greater extent. The whole of this country bordering on the Atlantic is covered with high forest trees, and exposed to very heavy rains from October to April; cultivation is very limited. The country to the west of the range is probably more elevated than the plain of the Paraná, as a part of it is covered with pine-trees, and rye cultivated with success. Tropical productions, on the contrary, such as mandioca, rice, bananas, coffee, sugar-cane, and cotton, thrive only in a few sheltered or depressed places; wheat and Indian corn are grown extensively. The fruit-trees of Europe succeed best—as the apple, pear, peach, plumb, cherry, walnut, chestnut, fig, and quince. The tree which produces the maté, or Paraguay tea, is cultivated with success. The greater part of the country, however, is prairie land, which makes good pasture for cattle, horses, and mules. Frost occurs from June to September, with southerly, and especially south-westerly winds.

The Rio Iguassù, or Curitiba, runs east and west for about 300 miles: it is navigable in the middle of its course, but before it reaches the Rio Paraná it forms a succession of water-falls, of which one, about 10 miles from its mouth, is said to be 120 feet in perpendicular height; this fall is called Salto de Victoria. The country on both sides of the lower parts of its course is thickly clothed with high timber-trees.

21. The system of the Brazilian mountains is terminated towards the south-west by a region which is traversed by numerous ridges. This southern hilly region comprehends the countries between the Atlantic Ocean and the lower course of the Paraná, as well as those which extend between the Paraná and the Paraguay, as far north as $20^{\circ} 20'$ S. lat. The last-mentioned country is called Paraguay, and the other region is divided into two sections by the river Uruguay, which traverses it from north to south.

The north-eastern part of Paraguay lies within the mountain-ranges

of Amambahy and Maracayù, which probably attain an elevation of more than 3000 feet. Short ridges branch off from the western declivity of the first-mentioned range, and approach the Rio Paraguay, and a long ridge runs southwards from the Serra de Maracayù, and terminates about 20 or 30 miles from the banks of the Paraná, where the river runs from east to west. The whole country is a succession of hill and dale, with the exception of the southern extremity, which being low and very subject to be inundated by the Paraná, is partly a swamp. Both hill and dale bear a rich soil, and this country is considered one of the most fertile tracts in all South America. In no other country are the hills covered with forests containing such fine trees, and large quantities of timber are exported to the countries farther south, which are entirely destitute of wood. The level tracts and valleys produce rich crops of sugar, cotton, and other plants which are generally cultivated for food in tropical countries; but they seem peculiarly adapted to the cultivation of tobacco and favourable to the growth of the maté. The climate is very temperate and healthy.

Where the Rio Paraná runs south-west, and parallel to the upper course of the Rio Uruguay, the tract intervening between both rivers (which is about 40 miles in width and 150 miles in length) resembles Paraguay in the conformation of its surface and in fertility. The ridge of hills which traverses it in the direction of its length, is covered with fine timber-trees, and on the lower grounds along the rivers, especially on the Paraná, all the products of Paraguay are raised in abundance. This hilly country ceases at some distance west of 56° W. long., and is followed by an immense swamp, which occupies nearly the whole space between the Rio Paraná and Paraguay as far south as 29° S. lat. This swamp is called Laguna Ybera. It is separated from the Paraná, where that river runs west, by a narrow strip of moderate elevation, and from the Rio Uruguay by a wider one, which is somewhat hilly. This swamp is more than 100 miles in length and more than 60 wide. No perceptible channel conveys the waters of the Rio Paraná to it, and it is supposed that it is supplied by infiltration. Four rivers carry off the water, of which the largest, called Rio Mirimay, runs south to the Rio Uruguay, and the three others join the Rio Paraná. The swamp is for the most part covered by aquatic plants and shrubs, but it also contains many small lakes, and in some places patches of more elevated ground, which are dry and are cultivated. South of this swamp the country rises to moderate hills. They do not form contiguous ridges, and their declivities are gentle. The surface of the country is encumbered with brushwood and bogs, and studded with small trees. This hilly country extends nearly to 33° S. lat. Along the borders of both rivers the country is slightly undulating, and covered with palm-trees for several miles inland; it possesses considerable fertility, but is not cultivated. The most southern district, which extends southward to the junction of the

Rio Paraná and the Rio Uruguay, is uniformly low and frequently inundated: the soil is tolerably fertile.

A tract of elevated ground begins on the shores of the Atlantic, at the Morro de Santa Marta, and stretches westward to 54° W. long. It seems to be of considerable elevation and great width, occupying nearly the whole country between 28° and 29° S. lat.; west of 54° W. long. it gradually declines towards the Rio Uruguay. A great part of this elevated tract is covered with pine-trees, especially the higher parts. From this elevated tract the country stretches out in a south-west direction, preserving a considerable elevation in the middle, and sloping down with a long declivity towards the banks of the river Uruguay, but rather rapidly and in terraces, to the low country, which separates it from the ocean. In the middle of these higher grounds a chain of mountains runs nearly north and south, terminating at its southern extremity with the Punta Negra on the Rio de la Plata. The higher part of this range rises in jagged peaks, which are visible at the distance of 50 miles, but towards the south it is of moderate elevation: it is called Cochillo Grande.

The country contiguous to the eastern base of this range extends towards the ocean in plains, which are occasionally interrupted by hills. In the north it is about 80 miles across, but towards the south it narrows to 20 miles. The plains are generally without trees and are used as pasture-grounds; the hills and declivities are clothed with low trees. South of 32° S. lat., where the plains are of moderate extent, the forests cover a considerable portion of the country. The lowest descent of this region occurs at the distance of 30 or 40 miles from the sea, and the intervening space is occupied by a low and level plain, which begins south of 34° and terminates north of 30° S. lat.: it extends more than 300 miles along the sea. The middle of this plain, which is the lowest part of it, is occupied by numerous lakes, some of which are of great extent. The most southern is the lake Mirim, which is 90 miles long and 25 miles in its greatest breadth; the Rio Mirim, which is 30 miles long, discharges its waters into the lake Los Patos by a navigable channel. Between lake Mirim and the sea is the lake of Mangueira, which is 80 miles long and about 4 broad, and discharges its waters into the ocean, at its northern extremity, by a small channel. Farther north is the largest of these lakes, the Laguna de los Patos, which is 150 miles in length and 35 miles in its greatest width, so that it there occupies more than half the width of the plain. It is generally shoal, but a channel along its eastern shores has sufficient depth for vessels of moderate size. Farther north many lakes of smaller dimensions occur, some of which are from 20 to 30 miles in length. The Laguna dos Patos discharges its waters into the ocean by a channel called the Rio Grande, which runs about 30 miles, but its navigable channel is hardly more than 12 feet deep. It has a bar across its mouth which has only 12 feet of water, and is

surrounded by dangerous shoals. A considerable trade is carried on by the Rio Grande with the lakes of Los Patos and Mirim, as both these lakes receive a navigable river. The lake Los Patos receives at its northern extremity the Rio Jacuhy, which runs upwards of 300 miles through a fine valley and is navigable for the greatest part of its course. The river Yaguaron falls into the lake of Mirim, and is navigable for some distance from its mouth to the neighbourhood of a mountain pass, which leads over the Cochillo Grande to the Rio Negro and Uruguay.

That part of the plain which lies between the lakes and the ocean, and consists of narrow strips of ground, has a sandy surface, and consists of a succession of little round sand-hills from 120 to 240 feet high. Between the hills there are some fertile spots and others which are swampy. That part of the plain which lies on the western side of the lakes is generally swampy along the banks of the lakes, but further inland it contains level tracts of rich meadow land. In some places extensive coppices occur, and along the rivers some fine trees. This country enjoys a temperate climate. The winter begins in May and ends in October, and it is the rainy season; the prevailing winds during the winter are from the east and south-east, and frequently blow with violence, producing frost and snow on the higher grounds. On the plains and in the valleys they very rarely produce such an effect. In summer the air in the low country is very hot and unhealthy, owing to the vapours rising from the swamps and lakes; but the more elevated country is very healthy. Agriculture is limited to the cultivation of wheat, barley, Indian corn, and mandioca; the fruit-trees of Europe succeed well, especially the pear and peach.

The country west of the Cochillo Grande has a much more broken surface, descending in long ridges of moderate elevation to the banks of the Uruguay. The valleys which lie between these higher grounds are of great fertility, especially those which lie north of 30° S. lat., and they resemble in climate and productions the fine valleys of Paraguay. They are also better settled and more populous than the valleys further south, which are chiefly overgrown with stunted trees; the higher grounds afford pasture for cattle. The tract of country which borders on the Rio de la Plata extends either in plains or has a slightly undulating surface; it contains no woods, and is used as pasture grounds.

The Rio Uruguay rises in the Serra Cubatão hardly more than 20 miles from the sea, and runs for a considerable distance, first west and then south-west. After its junction with the Ibicuy and Rio Mirinai, which brings down the waters of the Laguna de Ybera, it turns southwards, and in that direction reaches the Rio de la Plata after a course of 800 miles. The navigation is interrupted by numerous falls, which are only passable when the waters are at their greatest height during the periodical floods, or by portages in the dry season. Two considerable cataracts occur below 31° S. lat., only a few miles from each other; they are called

Salto Grande and Salto Chico. The Salto Grande consists of a rocky reef, running like a wall across the bed of the river; during the floods it is passable in boats, but at low-water it may be crossed on horseback. The largest of the affluents of the Rio Uruguay is the Rio Negro, which joins it from the east, and runs upwards of 250 miles. It is navigable for a considerable distance, and some traffic is carried on by it with the country that surrounds lake Mirim.

THE CENTRAL LONGITUDINAL PLAIN.

22. Between the eastern base of the Andes, and the western and southern prolongations of the mountain system of Brazil, extends a wide plain, which on the north joins the plain of the Amazonas River and on the south opens into that of the Pampas. Its northern boundary may be fixed at about 10° S. lat., and between 65° and 73° W. long.; and its southern boundary at 28° S. lat., and between 59° and 64° W. long. Its length is above 1300 miles, and the average width 350 miles, so that it covers a surface of 450,000 square miles. At its northern and southern extremities it is only about 800 feet above the sea level. From both of these points it rises gradually towards the centre, and between 18° and 21° S. lat. it may be from 1200 to 1500 feet above the sea level. From this, the most elevated portion of the plain, the rivers descend towards the north and the south. The waters which flow northward unite with the Rio Madeira, and those which run southward join the Rio Paraguay.

The most remote branches of the Rio Madeira originate partly in the elevated valley of Titicaca, and partly on the eastern declivity of the high mountain range of the Andes, which encloses that valley between 19° and 14° S. lat. The most southern of these branches is the Guapahi or Rio Grande, which drains the country south of the Sierra de Sta Cruz, by an eastern course. Turning round the eastern extremity of the last-mentioned range, it flows to the north-north-west, and uniting with the Rio Chapare, which brings down the waters from the northern declivity of the Sierra de Sta Cruz, it is called Rio Mamore, under which name it continues 300 miles, when it is joined north of 12° S. lat., on the east by the river Guapore. The last-mentioned river rises on the western declivity of the Serra dos Parecis, in the Brazilian Mountains, and running parallel to the north-western range of that chain joins the Mamore near 12° S. lat. The united river preserves the name of Mamore until it is met by the Rio Beni from the west. The Beni receives the numerous rivers which descend from the highest portion of the Andes, between 18° and 14° , running first north and afterwards north-east. After its junction with the Mamore, between 11° and 10° S. lat., the river is called Madeira, and continues in a north-eastern direction until it joins the Amazonas in $3^{\circ} 24'$ S. lat. The course of this river, measured from the sources of the Guapahi, exceeds 2000 miles. It is interrupted by

several falls, which occur where the three great branches approach one another, and after their confluence. Below the union of the two principal rivers there are 13 cataracts, and above it in the Mamore there are five. They begin in the Madeira in $10^{\circ} 37'$ S. lat. with the Cachoeira da Bananeira, and terminate at $8^{\circ} 48'$ S. lat. with the Cachoeira de San Antonio. Ten miles above the last-mentioned fall is the Cachoeira do Theotônio, where the river, from being 2000 yards wide, is contracted to 500 yards, and descends 30 feet perpendicular. The difference between the level of the river above and below the falls is 160 feet. The Madeira inundates the adjacent country to a great extent. The high water in this river occurs between March and June.

The Paraguay rises in the Serra dos Parecis near 14° S. lat., and consequently more than five degrees farther north than the southern branches of the Madeira; but its course lies in a different direction as the river runs south. It is joined between 18° and 19° S. lat. from the east by two considerable affluents, the Rio de S. Lourenço and the Rio Tacoary, both of which are navigable for a considerable distance. The Rio de S. Lourenço is joined by the Rio Cuyaba, which is also navigable. The Tacoary is much navigated. The current of the Paraguay is very gentle as far as $21^{\circ} 20'$ S. lat., where a chain of small mountains comes close up to the bank on both sides. At this place the waters are much contracted, and flow with great rapidity in two channels, which are separated by a large island: this place is called Fecho dos Morros. Lower down (north of 26° S. lat.) the Paraguay is joined from the west by the Rio Pilcomayo, and still further down by the Rio Vermejo. Not far from the confluence with the latter river the Paraguay joins the Paraná, and loses its name. The Pilcomayo rises on the eastern declivity of the Andes, with several branches between 19° and 22° S. lat. These branches unite after a course of 350 miles, and the river then runs with many windings in an eastern and southern direction, without being joined by any considerable affluent. About 100 miles from its mouth it divides into two branches, called Pilcomayo Guazu and Pilcomayo Mini. Though this river runs more than 800 miles it is not navigable, even in the rainy season, for small boats for more than about 50 or 60 miles. The Rio Vermejo rises in the eastern portion of the Andes of the Desplado, by two branches, the Rio de Tarija and the Rio Lavayen, which unite at the eastern base of the table-land of Yavi. After this junction the river is called Vermejo, and runs eastward with many windings to the Paraguay. It is navigable to the place where its two principal branches unite.

The *Longitudinal Plain* comprehends three sections, called the Plain of Moxos, of Chiquitos, and the Gran Chaco. The line of division between the Plain of Moxos on the north, and that of Chiquito on the south is indicated by a range of mountains of moderate elevation, which branches off from the Serra dos Parecis near 60° W. long., and enters the plain

a south-western direction, dividing the affluents of the Rio Guapore from those of the Rio Paraguay. It is called the Serra Aguapehi, and has acquired some celebrity from the attempt to make a canal through it, by which the river Guapore was to be united to the Rio Juarù, an affluent of the Paraguay. This canal was intended to effect a water communication between the Amazonas and La Plata. The attempt failed, as it is supposed, from want of skill in those who were intrusted with its execution. The Serra Aguapehi does not run across the whole plain, but terminates near $16^{\circ} 30'$ S. lat., about 150 miles from the Serra de Sta Cruz, which lies nearly west of it.

The *Plain of Moxos* stretches eastward to the branches of the Serra Parecis, which are about 40 miles from the eastern banks of the Rio Guapore. On both sides of this river the country extends in meadows covered with short grass and herbs. There occur on these plains, at unequal distances, some higher grounds which are covered with bushes, and appear like islands. Some other tracts are depressed below the general surface, and are overgrown with impenetrable reeds and rushes. In a few places small groves of palm-trees occur; but in general there are no woods, except along the banks of the streams, which are higher than the intervening tracts. The country is inundated for more than four months, from December to April, as the high water in the upper branches of the Rio Madeira occurs two months sooner than in the lower part of its course. The country is intersected by numerous lakes, mostly of moderate extent. Many of them are formed by the inundations, and contain a muddy water; but the others are produced by springs, and the water is clear. All these lakes communicate with one or two rivers, and thus there are natural water communications between the Guapore, Mamore, and Beni. The lakes are surrounded to a considerable distance by swamps. This country is very hot, but cold winds are experienced in July and August, which blow from the west and south. The western portion of this plain, which lies contiguous to the Andes, contains large forests of high trees along the banks of the rivers, and the forests extend to a considerable distance from these banks. The tracts which are remote from the rivers are destitute of trees, but in many parts high enough not to be inundated, and these tracts are good pasture-grounds.

The *Plain of Chiquitos* occupies the centre of the Longitudinal Plain, and extends southwards to between 20° and 21° S. lat., where the boundary between it and the Gran Chaco is formed by a rocky ridge of moderate elevation, called the Serra de Otaquis, which is connected on the west with some of the offsets of the Bolivian Andes. This chain terminates on the east at some distance from the Paraguay, and the intervening country is a swamp. The Plain of Chiquitos comprehends, therefore, the countries between the Rio Guapahi on the west, and those which lie on both banks of the Paraguay south of the mouth of the Juarù River. Its eastern border is formed by the offsets of a range which

unites the Serra Parecis to the Sierra Sejada, and farther south by the Sierra Amambahy. This plain in nearly all its extent is a complete level; but there is a series of isolated short mountain-ridges along the western banks of the Paraguay, of which that called Sierra Albuquerque, near 19° S. lat., is the most elevated and largest, occupying a space from 35 to 40 miles in length and width. These short ridges, which lie in a row from south to north at a short distance from the banks of the Paraguay, are separated from one another by deep depressions, occupied by water-courses, by which the large lakes which lie to the west of these ranges discharge their waters into the Paraguay. At the end of the rainy season, in March, when the rains are very abundant, and the Paraguay cannot carry them off by its narrow channels at the Fecho dos Morros, the low grounds on both sides of the river are laid under water, and there is formed a lake nearly 700 miles in length from north to south. The inundations are most extensive to the east; for on the banks of the rivers S. Lourenço and Cuyaba they reach above 100 miles from the Paraguay: farther south, on the banks of the Tacoary, they reach only to a distance of 50 miles. On the west of the Paraguay the water passes by the channels between the mountain-ridges into the lakes which lie behind them, and there expands over an unknown extent of country. It is not improbable that it reaches the numerous and extensive lakes which occupy nearly the centre of the Plain of Chiquitos, and are called *Las Lagunas*, and that from them the water is carried to some of the affluents of the Rio Madeira, which flow at no great distance from them on the west. In September, however, the waters are entirely carried off, and the whole surface is laid dry. The immense lake, which is thus formed after the rains, and exists only for about six months of the year, is called *Xaraya*, and a considerable portion of it is covered with a kind of wild rice, on which innumerable flocks of water-fowls, especially geese, feed. In its whole extent no settlements have been formed. Like the greatest part of the delta of the Mississippi, it is covered with water during the time when the crops should grow, and thus it is rendered unfit for agriculture. The tract covered by it is entirely destitute of trees and bushes.

The *Gran Chaco* extends from near 20° to 28° S. lat., between the Rio Paraguay on the east, and the Andes of the Despoblado on the west, with an average width of 250 miles. It differs greatly from the Plain of Chiquitos. No part of it, except the narrow strips contiguous to the rivers, is subject to inundation; and, as the rains south of 21° S. lat. are scanty, this region suffers as much from the want of water as that farther north from its superabundance. The most northern part, which is called the *Llanos de Manso*, and which occupies the extensive tract between the Rio Vermejo and the Rio Paraguay, receives several showers between the beginning of November and the end of February; and though entirely destitute of wood, except along the few water-courses, it is covered during a great part of the year with grass, which supplies good pasture for horses.

The native tribes which inhabit it possess great numbers of horses, and are formidable to their white neighbours. No settlements of whites have been formed in these plains. The southern portion of the Gran Chaco, or that which extends between the Rio Vermejo and the Rio Salado, nearly to the union of the latter with the Rio Paraná, is a complete desert. The soil is sandy and impregnated with salt. There is no vegetation, and even the native tribes shun this inhospitable tract. Wells occur only at great intervals. The rains are extremely scanty, and in some parts, probably, no rain at all falls, as this country is situated between the regions where the summer and winter rains prevail. No part of it seems fit for agriculture, except the banks of the larger rivers, which contain water all the year round, and where narrow strips covered with wood occur: the remainder of the desert is destitute of trees.

THE PLAIN OF THE PAMPAS.

23. This plain commences on the north, near 20° S. lat., on the western banks of the Rio Salado, and stretches between that river and the Andes of the Despoblado, southwards, to 28° S. lat., where it grows wider, and comprehends the whole country between the Chilian Andes on the west, and the Salado, Paraná, and La Plata rivers on the east. It terminates on the banks of the Rio Negro, or Cusu Leubu, between 39° and 41° S. lat. This immense plain presents a greater diversity of soil and climate than any other of the plains of South America.

The Rio Salado rises with several branches in the southern and more broken portion of the Andes of the Despoblado, and drains the southern part of that region, running first southwards and afterwards east-north-east. It leaves the mountains at a place called Passage, where it is difficult, and even dangerous, to cross during the rising of the waters. At this place it runs south-east, in which direction it continues for above 150 miles from its mouth, where it begins to run south, and joins the Rio Paraná at Santo Espiritu ($32^{\circ} 30'$ S. lat.). In the mountain-region the waters are fresh, but in the flat saline country through which they afterwards run, the waters imbibe a brackish taste, from which the river takes the name of Salado (Salt River). It runs more than 800 miles, and is said to be navigable for river-barges as far as Matara (28° S. lat.).

The Rio Dolce rises with several branches in the valleys between the southern offsets of the Andes of the Despoblado, and runs nearly parallel to the Rio Salado, south-eastwards, through the plains, until it is lost in an extensive salt-lake called Los Porongos; the waters are fresh, and hence it derives its name. It runs more than 350 miles, but it is not navigable.

The *Plain of Tucumán*, the most northern part of the Plain of the Pampas, is of comparatively small extent. It stretches along the eastern base of the Andes of the Despoblado, between the Rio Salado on the north, and the Rio Dolce on the south, about 160 or 170 miles in length,

and 100 miles in average width. It is a slightly-inclined plain, which, in the northern districts, descends towards the east, and in the southern towards the south. The surface is more undulating than hilly. The climate is hot, but dry and salubrious. The rains which fall between November and March are sufficient for the crops of tobacco, corn, maize, and rice, which are raised on this fertile soil. The sugar-cane is said to grow naturally on the eastern borders near the rivers. The base and slope of the mountains to the west are covered with fine trees in every variety, intersected with innumerable shrubs, and hung with the most beautiful parasitical plants. It is considered one of the most fertile countries of South America.

The country which borders on this plain to the east, and stretches out south-eastwards between the Rio Salado and Rio Dolce, resembles in every respect the southern portion of the Gran Chaco, being a desert without trees and water, and nearly without vegetation. The soil is impregnated with salt. On the banks of both rivers only there occur some tracts of moderate width, which are overgrown with grasses, and contain patches of trees. These tracts, which are settled and cultivated, produce wheat. The fields are irrigated by water from the rivers. On the desert grounds contiguous to these fertile tracts that kind of cactus grows on which the cochineal insect feeds, and a small quantity of this article is collected and exported.

South of the Andes of the Desoblado between 28° and 30° S. lat., and from the Serra de Velasco on the west to the Rio Dolce on the east, extends a salt desert called *Las Salinas*, which may be compared with similar deserts on the table-land of Persia. Where it approaches the Rio Dolce along the road leading from Cordova to Santiago del Estero, it is about 30 or 40 miles in width between the villages of Ambragasta and La Noria. This portion is called the Travesia de Ambragasta. Farther west it is much wider, and in some places more than 150 miles from north to south: it stretches out in a level, interspersed with sandy hillocks. The soil is generally covered with a saline efflorescence, and in some places there are incrustations of salt: it produces hardly anything except different kinds of salsola, from the ashes of which soda is extracted. No water is found either in streams or in pools or lakes. It is only at the eastern and western extremities along the Rio Dolce and the Serra de Velasco that fertile tracts, a few miles in width, occur: in the former wheat is cultivated, and in the latter, which is called La Costa, there are fine vineyards and plantations of fruit-trees. This desert has a very slight elevation: the Travesia de Ambragasta is hardly more than 200 feet above the sea, though it is above 700 miles from it. No part of America experiences so great a degree of heat as this country, especially during the north wind, which is prevalent in summer (from November to April). This wind is so hot that it blisters the skin on the face and

hands, even of those who remain within doors; leaves fall scorched from the trees, and the bark cracks and shrivels as if fire had been applied to it.

South of this desert extends a hilly region, the highest portion of which is occupied by a range called the *Sierra de Cordova*, which consists of several mountain-ridges running in a general north and south direction. It rests on a base which may be from 1000 to 2000 feet above the sea-level, and it rises from 3000 to 4000 feet above this base. The upper part of the ridges is steep like a lofty wall, and on their summits are levels of moderate extent, which are covered with rich grass, but entirely devoid of trees. Between June and August they are partly covered with snow. The lower part of the declivities, which descends in gentle slopes, is covered with trees, especially on the west side. The valleys embosomed between the ridges are also wooded, and exhibit a considerable degree of fertility. This mountain-range is surrounded by a rocky country, frequently rising into hilla, and intersected by many wide valleys. The land along the rivers is irrigated, and produces fine crops of Indian corn and wheat: the higher parts have good pastures. This rocky country extends to a considerable distance from the ranges: along the road which leads from Cordova to Santiago del Estero it reaches to Ambragasta, and along that which leads from Cordova to Buenos Ayres, to Frayle Muerto. Towards the south-west some detached ridges approach the town of S. Luis de la Punta. Many rivers descend from the Sierra de Cordova, but all of them are lost in lakes as soon as they have left the rocky country and entered the desert, which extends to the east and south of it. The Rio Tercero is an exception; but even this river with difficulty finds its way during part of the year to the bed of the Rio Caracaña, which falls into the Paraná near Espiritu Santo. The Tercero is navigable for 6 or 8 months as high as Punta de Gomez, though there occur two rapids in it. The hilly region of the Sierra de Cordova terminates on the west near 65° W. long. Between it and the Andes of Chile there is a desert, the surface of which is traversed by several short ranges of low hills running north and south. The plains between these ridges are extensive, but unfit for agriculture, the soil being sandy, and generally impregnated with salt. The natural produce is only small thorny trees and bushes. There are however some tracts of moderate extent, which supply pasture for cattle. On the north-east this steril country borders on the Salinas, but it is separated from the Serra de Velasco by an extensive grassy plain which is called Llanos, and supplies excellent pasture to numerous herds of cattle.

24. The name *Pampas* is properly applied to those plains only which extend from the Rio de la Plata and the Atlantic on the east to the Chilian Andes on the west. The northern boundary of this region runs along the Paraná to the mouth of the Rio Caracaña, and thence along the course of the Rio Tercero to Frayle Muerto, then to La Reduccion and S.

Luis de La Punta; from the last-mentioned place it extends in a north-westerly line to San Juan (31° N. lat.). The southern boundary of the Pampas is the Rio Negro or Cusu Leubu.

The *Rio Paraná*, whose upper course drains the southern portion of the Brazilian mountains, becomes navigable for vessels of 300 tons burden at the island of Apipé, in that part of its course where it runs east and west, and about 100 miles above its junction with the Paraguay. Below this junction it is thickly studded with low islands, covered with wild orange-trees and shrubs, but the deeper part of the channel has always from two to three fathoms of water. Before it forms the wide æstuary of the Rio de la Plata by its junction with the Rio Uruguay, it separates into numerous branches, which include a kind of delta consisting of several islands. Most of these channels are navigable for boats, but that which is called *Paraná Guazu* has seldom less than two fathoms and a half of water, and that of *Las Palmas* is the deepest next to *Guazu*. This river and most of its confluent bring down from the countries within the tropics to the higher latitudes a great volume of water, which inundates the low country along its banks from February to May. The waters begin to rise at the end of December, and increase gradually to the end of April; they sink to their lowest level in July: along the lower course of the river they generally rise 12 feet above the lowest level, and leave a deposit of grey slimy soil, which is very favourable to vegetation. About 48,000 square miles are stated to be subject to these inundations, but this appears to be a great exaggeration.

The *Rio de la Plata*, or the æstuary formed by the junction of the *Rio Paraná* and the *Rio Uruguay*, is from 25 to 30 miles wide at its innermost angle, and it enlarges as it approaches the sea. Between Point Piedras on the south, and Point Yeguas on the north, it is 53 miles wide, and between Cape S. Antonio and Cape Sta Maria, where it is considered as meeting the ocean, it is 170 miles wide. The turbid water which it brings down, is visible in the open sea 100 miles from this embouchure. It is generally shallow, especially along the southern bank, but in the current which runs along its northern shores there is sufficient depth for ships drawing 20 feet, and they may sail up as far as the town of Buenos Ayres, which is on its southern bank. However, vessels drawing more than 16 feet of water seldom approach the town nearer than 7 or 8 miles, and must remain in the outer roads; smaller vessels enter the inner roads; but even there they can seldom approach Buenos Ayres nearer than 3 miles. The navigation of this æstuary is rendered difficult by many extensive shoals. The tides are perceptible as far as Buenos Ayres, but between Point Las Piedras and Point Yeguas the water is fresh.

The *Eastern Portion* of the Pampas comprehends the immense tract which is bounded on the south and east by the Atlantic, and on the north-east and north by the Rio de la Plata and the Rio Paraná, as far as the last-mentioned river runs south-east. Along the Rio de la Plata and

Paraná the country is level, very little elevated above the sea, and covered with a fine short grass: no rising ground nor tree appears, with the exception of small groves about the cattle-farms. The plains are only interrupted by water-courses, which in the dry season are generally without water. It is, however, free from swamps, with the exception of a strip along the Rio Paraná, which is exposed to inundations. In these parts the grassy tracts on the higher lands alternate with others which are covered with thistles. South of these fine pasture-grounds, the plain still continues, but it is covered with coarse luxuriant grass, which grows in tufts, and is mixed with wild oats and clover. As this part of the plain is level and has not sufficient drainage, the rains lay a great part of it under water, and form extensive pools in the shallow hollows, which retain the water until it evaporates in the dry season. When the grass on the higher grounds has withered in the dry season, these depressions yield rich pasturage until the commencement of the rains. Though there are no streams, fresh water is got at no great depth by digging. In some parts there are small tracts interspersed with low trees. The soil is good, and in some places the grass, trefoil, and oats, grow to the height of 4 or 5 feet. In several places there are lakes of considerable extent. The Rio Salado, which borders this country on the south, rises farther west in that part of the Pampas which is impregnated with salt, and preserves the brackish taste of its waters in all its course, though it flows through a country which is not impregnated with salt; but some of its tributaries bring down salt water. It runs about 350 miles and empties itself into the widest part of the Rio de la Plata.

South of the Rio Salado the country contiguous to the banks of the river is somewhat elevated to a distance of 16 or 20 miles, and so far it resembles the country which is north of the river; but it slopes imperceptibly towards the south, and it is followed by extensive swamps, which lie in a direction from south-east to north-west and nearly parallel to the river. These swamps, which cover a country about 40 or 50 miles in width, and more than 100 miles in length, are covered with canes and reeds higher than a horse's head, and interspersed with numerous small lakes. They owe their origin to numerous streams which descend from the hilly ranges farther south, and whose waters, owing to the peculiar formation of the surface of the country, cannot find a passage either to the Salado or to the sea-coast. South of these marshes the country again rises with an undulating surface, until it terminates at the base of a series of isolated hills, which begin on the Atlantic at Cape Corrientes and Cape Andres, where they consist of rocky cliffs. Short stony ridges run from the shores inland, and form a mountain-range which is called the Sierra del Vuulcan (of the opening). This range continues 36 miles without interruption. Towards the north it has the appearance of a steep wall, and on its summit there are extensive table-lands, which are well watered and contain good pasture. It is separated by a depression

(called Vuulcan) 42 miles wide from another similar but lower ridge, which is called Sierra de Tandil, and is perhaps 1500 feet high. The ridges which lie to the north-west of it decrease in size and elevation as they proceed north-westward, and at their north-western extremity they are hardly more than 200 feet above their base. The country which extends west of this range to the Bahia Blanca consists of a succession of hills and dales, is well watered by running streams, and seems well adapted for agricultural settlements; but wood is scarce. The northern districts of this tract contain numerous lakes, some of which are salt-water, and others fresh: in the dry season they lose all their water. The country about them is rich in pasturage. North of the Bahia Blanca is another range of isolated mountains which runs south-east and north-west. It is of less extent than that farther east, being hardly more than 60 miles in length, but it rises to a greater elevation: the Sierra Ventana at its southern extremity attains an elevation of 3350 feet above the sea-level.

The climate varies considerably in this plain. Towards the north, at Buenos Ayres, the mean annual temperature is 62°. In January it frequently rises above 90°, and sometimes to 96°. It usually falls in winter to 36°, and sometimes, though rarely, to 28° or 29°. This country has the winter rains, and accordingly hardly a day passes, from the middle of April to the middle of October, in which it does not rain abundantly; the intervals of fine weather rarely last a few hours. A change of the wind generally produces an alteration of from 20° to 30° in the thermometer. During the greater part of the year the prevailing winds are northerly, which, passing over inundated or marshy countries, are loaded with moisture, and injurious to health. From time to time the air is purified by a *pampero*, or south-western wind, which originates in the snowy ranges of the Andes, and rushes over the intermediate pampas like a hurricane. It is frequently accompanied by clouds of dust raised from the parched plains, which are so thick as to produce total darkness, and sometimes it is attended by the most terrific thunder and lightning. The climate, however, is healthy. The country at the foot of the Sierra de Tandil experiences a great degree of cold in winter, and in summer the heat is almost insufferable, especially in the low lands, but in spring and autumn the weather is temperate and agreeable. In April (our November) the thermometer frequently sinks below the freezing point: variations of 20° and even 30° in the course of the day are of common occurrence. In April the thermometer varies between 28½° and 68°, in May between 31° and 61°, in June between 39° and 72°, and in July between 41° and 79°.

25. West of this country lies the region of the *Saline Swamps*, between 61° and 66° W. long., extending through the whole width of the rocky country which surrounds the Sierra de Cordova, and stretching southwards to the banks of the Rio Negro. The surface of this region is nearly level,

and impregnated with muriate of soda. The greater part of it is covered with rushes and tall reeds. The lakes are salt. In some places fresh water is found at a depth of 50 feet below the surface; in others no fresh water can be procured. The dry portions of the surface are covered with a saline efflorescence, and the grass itself which grows on them is strongly saline: this country contains very scanty pasture. The grass, which is coarse and long, grows to the height of 6 feet, and resembles rye or wild oats; it grows in clumps, and the roots form hillocks at intervals of a few yards. The soil does not consist of sand, clay, or gravel, but of a dark friable mould without the smallest pebble in it. There are no trees or bushes except on the borders of the rocky region of the Sierra de Cordova, where the herbage is smooth, short, and thick. A great portion of this plain is uninhabited, or only traversed by native tribes, and there are immense tracts not only destitute of four-footed animals, but even of birds. The number of lagoons and lakes is very great, but none of them are extensive, except the Urre Lauquen, the recipient of the Desaguadero of the Rio Diamante. The central part of this plain is covered with thistles, which grow to the height of 8 feet, and are so thick as to render it almost impassable. They protect the inhabitants for nine months against the incursions of the Indians, who are not feared except in February, March, and April, when these plants have decayed down to their roots. The greatest part of this plain is probably about 2000 feet above the sea-level, as the town of S. Luis la Punta, which is not far from its northern border, is 2470 feet above the sea. Hard frost is experienced in these pampas between June and August, and the rains are heavy in this season; but both frost and rain decrease considerably in the western districts of the plain.

The western portion of the Pampas, or that which extends from about 66° W. long. to the base of the Chilian Andes, has likewise a soil impregnated with saline matter, but the surface consists of a loose and dry sand, mixed with volcanic ashes. This peculiar soil, combined with the climate, produces certain species of thorny trees and plants, among which the barilla-plant is abundant. As no part of this tract produces grass, it does not afford pasture, nor is it, in its natural state, fit for agriculture, but by irrigation the soil becomes very productive. In a soil so light, the saline matter, aided by the constant moisture, appears the most active stimulant to vegetation, and serves as a never-failing manure. It is likewise favourable to the growth of trees, especially of fruit-trees, of which there are large plantations. Wheat, maize, barley, wine, and fruits are exported in great quantities. Though only a comparatively small portion of the whole can be irrigated, it is stated that, with proper arrangement, a surface of 36,000 square miles could be irrigated along the banks of the rivers Mendoza, Juan, Tunuyan, and Diamante.

This country is drained by one of the most extraordinary systems of rivers on the face of the earth. None of the rivers which descend from

the eastern declivity of the Chilian Andes, between 30° and 36° S. lat., carry their waters to the sea; they discharge them into three lakes, or rather an assemblage of lakes, which communicate with one another by channels, and receive from each other the surplus of their waters. The most northern, and probably the most elevated, system of lakes, are those of Guanacache, which lie near 32° S. lat. Near 34° are the lakes called El Bevedero, and near 37° is the Urre Lauquen. The water of these lakes, during the greater part of the year, is salt, and a large part of their margin is covered with thick incrustations of salt, which are collected and sent to other parts of the country for sale; but most of the rivers which fall into them have fresh water.

The lakes of Guanacache receive the waters of the Rio de Mendoza and the Rio de San Juan. The Rio de Mendoza rises on the principal chain of the Chilian Andes, between the peak of Tupungato and the volcano of Aconcagua (near 32° S. lat.), crosses the southern part of the valley of Uspallata obliquely to the south, passes the Paramillo range by a channel or fissure, and then descends into the plain, in which it runs first to the east, and then to the north, until it falls into the lakes of Guanacache. The Rio San Juan rises on the northern declivity of the volcano of Aconcagua, runs north-east, crossing the northern part of the valley of Uspallata, and likewise passes through the Paramillo range; after which it descends into the plains, and reaches the lakes of Guanacache by a southern course. These lakes cover a considerable surface, but neither their dimensions nor their number is known. A river issues from these lakes called Rio Desaguadero, which runs first in an easterly, and afterwards in a southerly direction, until it falls into the lake Bevedero. The waters of this river are fresh during three months, but salt in the remainder of the year.

The term Bevedero, like that of Guanacache, is used to indicate an assemblage of several lakes, though properly it belongs to the most northern of them. Their number as well as their extent is not known; probably both vary with the seasons. Besides the Desaguadero of the lakes of Guanacache, the river Tunuyan increases their waters. This river rises on the southern declivity of the great mountain mass of the Peak of Tupungato, and at first runs south through the wide and fertile valley which bears its name: afterwards it passes through the eastern chain of the Andes by a deep chasm, and enters the plain, where its course is first north-east and afterwards east. Formerly all the waters of the Tunuyan went to the Bevedero, but the river has opened a new channel called Rio Nuevo, which joins the Rio Diamante. The Rio Diamante rises on the eastern declivity of the Andes, near the Peak of Cauquenes, and runs eastward till it joins the Rio Nuevo of the Tunuyan, after which it runs south, and is called the Rio Salado, probably because the waters have imbibed a salt taste in traversing a saline country; it is also called the Desaguadero of the Rio Diamante. Before it terminates its

rise in the lake called Urre Lauquen, it is joined by another river called Cadi Leubu, whose course is not well known, but it seems to originate one of the rivers which descend from the eastern declivity of the Andes, between the volcano of Peteroa and the Descabezado Peak. The course of this river, so far as it is known, is from the north-west to the south-east, until it joins the Desaguadero of the Rio Diamante. It is not known whether the waters, like those of the Rio Tunuyan and the Rio Diamante, can be used for irrigating the adjacent lands. The Urre Lauquen, which in the language of the natives signifies "Bitter Lake," is said to be extremely salt; it is not known whether it is one lake, or an assemblage of lakes.

The *Rio Colorado*, or *Cobu Leubu*, rises in the Andes, probably south of the Descabezado Peak, and runs in a general south-east direction, with many windings, until it reaches the Atlantic Ocean north of 40° S. lat. Its course is only partially known. The upper part seems to traverse a very hilly country. The whole course of this river may, perhaps, exceed 600 miles, but it is said not to be navigable for more than 50 miles from its mouth.

The country watered by this extensive river system is generally called *Puyo*. It differs considerably from the remainder of the Pampas in climate. We are, however, only acquainted with the northern districts, which, though they are from 3000 to 5000 feet above the sea-level, are distinguished by the extreme dryness of the atmosphere. Clouds rarely appear; at night there is no perceptible dew, and scarcely any rain all the year round. The heat during the summer months is great, the thermometer frequently rising to 100°, and even to 109°. Snow falls in abundance on the Andes, which lie farther west, but neither snow nor rain is observed on the plains. These countries are considered to be very healthy.

PATAGONIAN PLAINS.

26. The *Rio Negro*, called by the native tribes *Cusu Leubu*, may be considered as forming the boundary between the Pampas and the Plains of Patagonia. This river rises in the Andes, between 38° and 42° S. lat., with two branches which run parallel to the mountain-range. The southern, called Rio de Encarnación or Limay Leubu, is the channel by which a large lake, called Nahuel-huapi, enclosed by high mountain-ranges, discharges its waters (41° S. lat.). The river runs northward until it joins the northern branch, the Rio Catapuliche, near 40° S. lat. This northern fork likewise runs in a valley enclosed by high ranges. After this junction the river, still preserving the name of Limay Leubu, passes through the lower eastern range, and runs north-north-east until it is joined from the north by the Rio Neuquen, which rises south of the volcano of Antuco, near 36° S. lat., and flows with a rapid current south-east for more than 240 miles, until it joins the Limay Leubu. The

river, now called Cusu Leubu, runs first in an eastern, and then a south-eastern direction. It falls into the ocean near 41° S. lat., after a course of more than 600 miles. This river is navigable for large barges to the junction of the two forks, and consequently to the very base of the Andes. Its great affluent, the Rio Neuquen, is also said to be navigable for small craft as far as 37° S. lat.

The coast of Patagonia, from the mouth of the Cusu Leubu to the entrance of the Strait of Magalhaens, is comparatively low, though somewhat more elevated than it is north of the river. It is lined by only sterile dunes, intermixed with stones and gravel, and is only fit, in all appearance, for guanaco and emu, which wander over them in quest of the scanty coarse grass, which constitutes their only herbage. No wood occurs larger than a small species of thorny shrub, which is only fit for fuel. Water is very scarce, and is brackish. The ports are difficult of access, and afford little security to vessels above the size of a brig. The best port is that of S. Julian ($49^{\circ} 10'$ S. lat.). The tides along this coast rise from 30 to 50 feet: the nearer we approach the Strait of Magalhaens, the higher they rise.

The interior of the country contiguous to the river Cusu Leubu has a very undulating surface. It suffers much from want of water; and the soil is dry and parched, although thickly covered with small shrubs and a tolerable grass. It supplies pasture to innumerable herds of guanaco.

South of $44^{\circ} 8'$ lat., ranges of stony hills and extensive barren plains occur: only here and there a tree or a spot of green herbage appears. This country is very little known, except on the banks of the river Santa Cruz, which has been ascended about 200 miles from its mouth, nearly to the base of the Andes. The current is extremely rapid all through this distance, running with a mean velocity of from 5 to 6 miles per hour. At the place where the survey of the river terminated, it is about 400 feet above the level of the sea. It brings down a great volume of water, and is nowhere less than 10 feet deep, but it is difficult to navigate on account of its great rapidity. The river flows in a valley from 1 to 5 miles wide, which is enclosed by higher grounds. These higher grounds not far from the mouth of the river rise 300 feet above the level of the valley; but further westward they increase in height, and at a distance of about 100 miles from the sea they attain an elevation of 1000 feet: the slopes by which these elevated table-lands descend towards the river are very steep. These table-lands stretch out in dead levels, and rise one above the other by short and steep ascents, like terraces. Their surface consists of diluvial accumulations, in which sea-worn and rolled shingle-stones are imbedded. Here and there, in hollow places or ravines, a few dark-looking shrubby bushes grow, but no trees can be discerned over the wide stony plains; a few withered shrubs, and a yellow kind of herbage, the food of the guanaco and emu, is all that can be seen. The valley of the river is of the same description, except that shrubby bushes and grass are frequent near the

fresh water. About 100 miles from the mouth of the river the country is covered with fields of lava, which extend with some interruption to the foot of the Andes, and seem to have issued from these mountains. Along the river there are steep precipices, and narrow winding valleys, abounding in huge fragments of lava. The sides of the higher grounds, which enclose the valley of the river, are similar to those further down, but on the top are layers of lava several feet thick, and lying in a horizontal position, so as to constitute a level plain. The phenomena of the mirage is very frequent on these lava plains.

The climate of these plains is very cold, especially south of 45° : frost frequently occurs as soon as the sun has passed north of the equator; in summer excessive heat is experienced. Great and sudden changes of temperature take place. After very hot weather, a cold wind rushes from the south with the fury of a hurricane. Rain seldom falls during three-fourths of the year, and even during the three winter months very little falls; from time to time it rains two or three days in succession. Easterly winds are very rare, and they alone bring rain to these desert countries. A small misty rain which lasts for a few hours is not uncommon, but it is too scanty for the support of vegetation. The prevailing winds are from the west; but though these winds bring abundant moisture to the western declivity of the Andes, they are very dry after they have passed that range, and a drop of rain never descends on Patagonia as long as they blow.

27. The *Strait of Magalhaens* divides the Antarctic Archipelago from the continent of America. This strait begins on the Atlantic between Cape de las Virgines and Cape del Espiritu Santo, and it terminates on the Pacific between Cape Pillar and Cape Victory. It is more than 300 miles long. In the middle it enlarges to a great width, forming a kind of Mediterranean Sea, but in the eastern part, at the first narrows, it is scarcely six miles across; and the whole of the western part is in general not more than eight miles wide, and in some places only four. The wider part of the strait is connected with the Pacific by two shorter straits, which lie on both sides of the Island of Clarence. The eastern of these straits extends first south and afterwards west; the first part of it is called Magdalen Channel, and the second Cockburn Channel. This strait is free from rocks. The western strait, called Barbara Channel, is full of islands and rocks, and at one place hardly 200 fathoms wide. The Strait of Magalhaens is difficult to navigate on account of the strong tides, and the western gales, which prevail the whole year round. In 1826, however, it was discovered that the Magdalen and Cockburn channels offer an easy passage to the Pacific, and thus the most difficult and dangerous part of the strait is avoided.

The Antarctic Archipelago consists of three sections: Tierra del Fuego, which lies south of the Strait of Magalhaens; the Patagonian Islands, which extend along the western coast of Patagonia; and the Falkland

Islands, which are situated in the Atlantic, opposite the eastern entrance of the Strait of Magalhaens.

Tierra del Fuego consists of seven larger and numerous smaller islands. The largest of these islands, called King Charles' Southland, lies south of the eastern and east of the central part of the Strait of Magalhaens. Near 69° W. lat. it extends 170 miles from north to south, and near $54^{\circ} 40'$, more than 250 miles from east to west. Its area is above 20,000 square miles. Half of the surface, the northern and eastern parts, are a plain, on which there are a number of low hills with a gentle ascent. It is in most parts stony and entirely destitute of trees, but there are shrubs and grasses. The shrubs are thinly scattered, but the grass is abundant; and, though of a harsh and dry appearance, it feeds large herds of guanacoës. The southern and western districts are occupied by mountains. The line of division between the plains and mountains runs from the Strait of Magalhaens along the northern shores of Admiralty Sound, and proceeds in an east-south-east direction to the Strait of Le Maire. Along this line there are detached ranges of mountains, from 2600 to 3400 feet above the sea-level. Farther westward the mountains rise to a greater elevation, generally to 3000 and 4000 feet, and are always covered with snow. The highest summits are Mount Darwin, 6800 feet, and Mount Sarmiento, 6900 feet high. The last mentioned rocky mass, whose base approaches Magdalen Channel, is covered with snow, for nearly two-thirds of its height, and glaciers descend from its sides to the water's edge. The shores of this mountain region are in many places intersected by deep inlets, some of which are good harbours. The valleys between the mountains and the lower declivities of the ranges are generally covered with trees, many of which are good timber.

The wider portion of the Strait of Magalhaens contains Dawson Island, which is about 50 miles long with a mean breadth of from five to six miles. It is high and rocky: one of the mountains attains nearly 3000 feet. It is chiefly covered with trees. Clarence Island, farther west, is surrounded by a portion of the Strait of Magalhaens, and the two straits, called Magdalen and Cockburn Channels, and Barbara Channel. It is about 50 miles long, and, on an average, twelve wide. The shores are intersected by many deep inlets. It is rocky and elevated, but less so than Dawson Island, the highest summit rising only to 2500 feet. It is nearly overgrown with trees, which, toward the north-western part, exhibit a stunted growth. Sta Ines Island, or Desolation Land, extends from Barbara Channel in a north-western direction to Cape Pillar. It is nearly 100 miles long, with a mean width of fifteen miles. It consists of masses of rock, partly bare, and partly covered with stunted trees. The mountains often rise to the snow line, and the rocky masses appear so near the water, that only in a few places is there a level sufficient to lodge a boat on. Along the Strait of Magalhaens only a few

inlets occur which afford safe anchorage, and along the Pacific the coast is lined with numerous islets, cliffs, and rocks. It is supposed that Desolation does not constitute one island, but is intersected by several channels.

South of King Charles' Southland there are several large islands, which are separated from it by a strait nearly 120 miles in length, and from a quarter of a mile to a mile wide. It is called Beagle Channel, and extends nearly in a strait line east and west. The largest islands south of this strait are Hoste and Navarin. Hoste, the most western, is separated from Navarin by Ponsonby Strait. It is more than 70 miles long, and the mean width exceeds 36 miles. Though rocky and high, it does not appear to attain to a great elevation. Along Beagle Channel it is well wooded, but the southern shores are generally bare, and are indented by deep inlets. Navarin Island is about 40 miles long and 20 wide: it resembles Hoste Island, but contains more level tracts along the shores. South of Hoste Island is a group of smaller islands, the most southern of which is Horn Island, a rocky mass without vegetation. Cape Horn, its most southern point, is considered the most southern extremity of America.

East of the eastern extremity of King Charles' Southland, and divided from it by the Strait of Le Maire, which is about 20 miles wide, lies the island called Staten Land, which is about 38 miles long. The shores being indented by deep inlets, the width varies between half a mile and four miles. It is high and rocky, but in some parts covered with stunted trees. Along the northern shores there are several good harbours, which are visited by sealers: the largest and safest is that of St. John, near the eastern extremity.

The climate of the level portion of King Charles' Southland resembles that of the plains of Patagonia, being extremely dry and cold. The climate of the mountainous part and the lesser islands is quite different. Western and south-western winds prevail there all the year round, and, whilst they blow, the air is charged with moisture, and rains are frequent and sometimes of long duration. This circumstance prevents any great degree of heat or cold. The mean temperature of the summer on the Strait of Magalhaens is 50° , and that of the winter 33° . In winter the thermometer sometimes descends to 12° . The frosts, however, do not last long, and it is thought that they are not so severe nor so long as in England: the heat in summer is still less sensible.

The *Patagonian Islands* extend from the western extremity of the Strait of Magalhaens, 53° S. lat., to Cape Tres Montes, 47° S. lat., along the western coast of South America: they strongly resemble in character the opposite coast. Near the opening of the Strait of Magalhaens there is an extensive group of islands, called Adelaide Archipelago. Farther north is Hanover Island, which is nearly 70 miles long, though it may possibly consist of several islands. The Archipelago de Madre

de Dios is separated by the Gulf of Trinidad from Wellington Island. Wellington Island is more than 150 miles long, and in some places 60 miles wide: it is divided from the continent by Mesier Channel, which varies in width from two miles to 400 yards. Between Wellington Island and Cape Tres Montes is the Archipelago of the Guianese Islands. All these islands are rocky, and high; but, though the mountains rise with a steep acclivity from the shores, they seem not to attain a great elevation, none of their summits probably exceeding 2000 feet above the sea level. The coast which fronts the Pacific is bare, being almost continually washed by rains, and beaten by strong winds; but those parts which lie opposite the American Continent are wooded, and in some places the trees are high, and of vigorous growth.

The *Falkland Islands* lie in the Atlantic between 51° and 53° S. lat., and extend from near 57° almost to 62° W. long. They occupy about 9000 square miles, and thus exceed by 1000 square miles the area of Wales. The number of islands is about 200; but only two are of considerable size: these two are called respectively East and West Falkland, and are separated from one another by Falkland Sound. The shores are low, but rocky. The greater part of the islands consists of low, barren hills, sloping down towards the broken ground on the rocky, surf-beaten shores. On the west coast of West Falkland there are some high precipitous cliffs. The average height of the western island is greater than that of the eastern, although the highest hills seem to be in the latter, where a ridge runs across the island near its centre: its highest part, called Wickham Mountains, is 1300 or 1400 feet above the sea. The surface of the islands, which is generally undulating, seems to consist of moorland and black bog; but in many places it is a solid sand-clay soil, covered by a thin layer of vegetable mould, which produces shrubby bushes, and a coarse grass, that affords ample nourishment for cattle. Many valleys have a good deep soil. The southern half of East Falkland is low and level, and produces abundance of excellent herbage. There are no trees; but brushwood grows plentifully in the valleys to the height of three or four feet, and is used as fire-wood. Peat is inexhaustible, and makes good fuel. Some Europeans settled here in the last century, and when they abandoned their settlements, they left behind them cattle, horses, pigs, goats, and rabbits, all which animals have greatly increased. The number of wild cattle is stated to amount to 12,000, and that of horses to 4000. The cattle are of very large size, their hides weighing from 60 to 80 pounds each. The horses are not much larger than the Shetland ponies. The only indigenous quadruped is a peculiar species of fox, resembling a wolf. Sea-elephants and seals, both hair and fur-seals, are still numerous, though not so abundant as formerly, having been much destroyed by the whale-ships, which have made these islands their head-quarters during the last thirty years. Whales frequent the surrounding seas at particular seasons. Fish are very abundant, especially a kind of bass, which

is salted and exported to the River Plata and Rio de Janeiro. Water-fowl and waders abound in the pools and small lakes, which are numerous in the lower grounds. Wheat grows, but it has not yet been ascertained if it will come to maturity. Fruit does not ripen. Potatoes, turnips, carrots, cabbages, lettuce, and other esculent plants, grow well. The climate is extremely boisterous. The winds are variable, seldom quiet while the sun is above the horizon, and sometimes very violent. During the summer a calm day is an extraordinary event. The nights are less windy than the days. In winter there is not generally so much wind as in summer, and in the former season the weather, though colder, is more settled, and considerably drier. During the winter the winds are chiefly from the north-west, and in summer they are more frequently south-west. Rain occurs frequently all the year round; but it does not fall for any considerable time. The sky is almost always covered with clouds, and a sunny day is a rare occurrence: in other respects the climate is temperate. In winter the thermometer usually ranges between 30° and 50° , and in summer between 40° and 65° . For many years it has only once been observed as low as 22° in the shade, and once only has it been observed to rise above 80° . Ice, an inch in thickness, has not been seen: snow seldom lies upon the low lands, or at any period exceeds two inches in depth. Excellent harbours, easy of access, and affording good shelter with the best holding ground, abound among these islands: the most extensive are Berkeley Sound on East Falkland, and Port Egmont in West Falkland. The French formed a settlement at Port Louis, in Berkeley Sound, in 1764, and the English made one in Port Egmont in 1765. The French ceded their settlement, in 1767, to the Spaniards, who, in 1770, expelled the English from Port Egmont; but soon afterwards restored it. The English abandoned their settlement in 1774; but the Spaniards maintained theirs to the beginning of this century, when they also withdrew from it. In 1820, Buenos Ayres took possession of these islands; but the English asserted their rights, and, in 1833, the Buenos-Ayrians left the island on the arrival of an English ship of war. Since that time the Falkland Islands have been considered a British possession, and a small settlement is maintained at Port Louis. Whaling and sealing vessels frequently visit this harbour.

POLITICAL DIVISIONS OF SOUTH AMERICA.

AT the beginning of the present century nearly the whole of South America was divided between the Spanish and the Portuguese; the Dutch and French had some small settlements on the north-eastern coast. But the most southern part of South America, which lies south of 36° on the eastern, and of 42° on the western coast, had not been permanently settled by any European nation. The Spanish colonies obtained their independence by a hard and protracted struggle (from 1810 to 1824), with the mother country, and they now constitute

six larger, and sixteen smaller republics. The larger are Venezuela, New Granada, Ecuador, Peru, Bolivia, and Chile. The smaller comprehended under the name of the Provinces of La Plata, or Argentine Republic; they are Buenos Ayres, Uruguay, Entre Rios, Corrientes, Misiones, Paraguay, Salta, Tucuman, Catamarca, Santiago, Rioja, Cordova, S. Juan, Mendoza, S. Luis and Santa Fe. The Portuguese colonies got rid of the dominion of Portugal by a series of political changes, which occurred in 1821 and 1822, and now without bloodshed; these colonies now form a constitutional government under the name of the empire of Brazil. A part of the Dutch colonies was ceded to the English in 1814, and thus South America is now present politically distributed into the following divisions, the area of which is added, according to a rough estimate :—

	Square Miles.
1 Republic of Venezuela	400,000
2 Republic of New Granada	380,000
3 Republic of Ecuador	315,000
4 Republic of Peru	485,000
5 Republic of Bolivia	380,000
6 Republic of Chile, including Araucana	130,000
7 Buenos Ayres	75,000
8 Uruguay	70,000
9 Entre Rios	32,000
10 Corrientes	20,000
11 Misiones	7,500
12 Paraguay	90,000
13 Salta	} 600,000*
14 Tucuman	
15 Catamarca	
16 Santiago	
17 Rioja	
18 Cordova	
19 San Juan	
20 Mendoza	
21 San Luis	
22 Santa Fé	
23 Patagonia, including the Antarctic Archipelago	280,000
24 The Empire of Brazil	2,800,000
25 The English, Dutch, and French colonies in Guayana	150,000

The whole surface of South America is about 6,214,500

* It is not possible to give even a rough estimate of the area of the republics from 13 to 22, as a large part of them consists of desert tracts, in which no exact bounds has been fixed. In the number of square miles given are included the Gran Chaco and the countries between 36° S. lat. and the Cusu Leubu River, west of 62° W. lon which are not yet settled by Europeans, and are entirely in possession of the native tribes.

I. VENEZUELA.

1. *Situation, Extent, Boundaries.* 2. *Surface and Soil, Mountains and Plains, Rivers and Lakes.* 3. *Climate and Productions.* 4. *Inhabitants and Population.* 5. *Political divisions and Towns.* 6. *Manufactures and Commerce.* 7. *History and Government.*

I. VENEZUELA occupies the greater part of the northern shores of South America, and the adjacent countries. Near the parallel of 9° N. lat. it extends from east to west, from Punta Barima, 60° W. long., to the Mountains of Ocaña, $73^{\circ} 30'$ W. long., 900 miles in length. The greatest width is in the meridian of Cape Codera ($66^{\circ} 15'$ W. long.) where it extends from the boundary line of Brazil 1° to $10^{\circ} 40'$ N. lat., or more than 660 miles from south to north. But its most northern point, Punta Gallina, is in $12^{\circ} 25'$ N. lat.

On the east, it borders on British Guayana, and on that part of the Brazilian Province of Rio Negro, which comprehends the basin of the Rio Branco. The boundary-line between Venezuela and the British possessions has never been determined, and that which separates the republic from Brazil, runs through countries which are almost unknown. The line of separation is north of 1° N. lat. on the banks of the Guaiña, or Rio Negro, between S. Carlos del Rio Negro and S. José de Marabitanos. New Granada is west of Venezuela. On the south, the boundary between these republics begins at a point, about 50 miles west of S. Carlos, and thence it runs due north, cutting the Rio Negro a little above Maroa, and proceeding to the Orinoco, where that river turns northward, at the mouth of the Rio Atabapo. The Orinoco constitutes the boundary as far as its confluence with the Rio Meta. The boundary then runs along the Meta to about $70^{\circ} 45'$, whence it passes north-west between Arauco and Guadualito to the Apuré River, which it traverses between the confluences of the rivers Nula and Orivante. Dividing the basins of these two rivers, it passes over the elevated ridge of the Eastern Andes of New Granada, at the Páramo of Porquera, east of La Grita. It then turns westward, follows the course of the river Tachira, a confluent of the Zulia, and leaving it above the town of S. Faustino, runs westward to the Mountains of Ocaña, which it strikes south of the source of the Rio Catatumbo. It then runs northward again, along the elevated tract which encloses the Lake of Maracaybo on the west, terminating on the shores of the Caribbean Sea, at the mouth of the Rio Calancala, a little east of the Rio de la Hacha. The northern boundary of Venezuela is the Caribbean Sea, which forms the wide Gulf of Venezuela, between the peninsulas of Goahiros and Paraguana, and farther east the Gulf of Triste and that of Cariaco, the latter of which is separated from the open sea by the

peninsula of Araya. The north-eastern part of Venezuela is opposite the island of Trinidad, from which it is separated by the Gulf of Paria and the two straits, called Boca de Dragon and Boca de Serpente.

2. The boundary of Venezuela includes the most northern portion of the Eastern Andes of New Granada, namely, the *Páramos* of Porquera, Merida, Niquitao, and Las Rosas, with the snow-topped Nevado de Mucuchies. Though the most elevated part of this region rises above the line of vegetation, the valleys, gentle slopes, and table-lands, which extend on both sides of it, are very fertile, and produce, according to their elevation, the grains and fruits of Europe, or those of tropical countries. The physical character of that part of Venezuela, which is west of the Lake of Maracaybo, is not known, as it is in possession of two independent tribes, the Cocinas in the south and the Goahiros on the north. It is partly covered with trees and partly extends in woodless plains. The whole of the Mountains of Venezuela belong to the republic. That portion of the range which is west of the Gulf of Triste has an arid soil, and suffers frequently from want of moisture. The higher parts are overgrown with the prickly pear, aloes, and a species of dwarf cedar: the valleys contain fine timber-trees, especially that of the Rio Tocuya. Coffee is successfully cultivated in some parts. The remainder of this mountain-region, which, with the exception of the coast, receives abundant rains, is also distinguished by the great fertility of its valleys. About one-half of the plains of the Orinoco lie within Venezuela. The eastern portion is called the Llanos de Barcelona, or *Llanos Altos*. These Llanos are not inundated by the floods of the Orinoco, with the exception of a comparatively narrow tract along the banks of the river, of the delta of the Orinoco, and a low tract contiguous to the Gulf of Paria and the Rio Guarapiche. These low parts are generally wooded, or impassable swamps. Part of the more elevated portion of these Llanos is hilly, but the larger part consists of plains interspersed with clumps of trees. The soil is moderately fertile, and in general fit for agricultural purposes. The river Manapiré may be considered as separating the Llanos de Barcelona from those of Caracas and Varinas, which are also called the Cattle Plains, on account of the numerous herds of cattle which they feed. These plains are inundated for nearly six months in the year, especially the lower tracts on the river Apuré. The country surrounded by the Rio Orinoco is nearly covered with the ridges of the Parime Mountains, of which about one-half are included in Venezuela. This region is very little known, with the exception of the Vale of the Rio Caroni, which is extensive and fertile. The mountains are generally covered with trees. South of the upper course of the Orinoco, where it runs from east to west, on both sides of the canal of Cassiquiare and the river Guainia or Rio Negro, level plains extend, which are covered with trees, and very fertile, but they are nearly uninhabited, owing to the superabundance of rain and the unhealthiness of the climate.

These regions occupy, according to a rough estimate, the surface of Venezuela in the following proportion :—

	Square Miles.
A. The Andes, including the Mountains of Ocaña, and the country extending from their foot to the Lake of Maracaybo	30,000
B. The Mountains of Venezuela	29,500
C. The hilly country west of the Lake of Maracaybo, from the river Catatumbo northward, which is inhabited by the Cocinas and Goahiros	21,000
D. The Llanos Altos, including the delta of the Rio Orinoco, (which contains 7824 square miles), and the lowlands contiguous to the Rio Guarapiche	40,860
E. The Llanos de Caracas and Varinas	56,412
F. The Mountains of Parime, including the low tracts along the Orinoco	185,000
G. The wooded plains south of the upper course of the Rio Orinoco	40,600
	<hr/> 403,372

Besides the Orinoco and its numerous affluents, many of which are navigable, Venezuela has only one large river, the Guarapiche, which falls into the Gulf of Paria, and rises on the eastern declivity of the Bergantin Range. Though its course does not much exceed a hundred miles, it is deep, and brings down a great volume of water. It joins the sea by a wide embouchure, and, as well as most of its affluents, it is navigable nearly to its source. The Neveri and the Unaré, which rise on the Llanos Altos and enter the Caribbean Sea, though they run about 100 miles, have little water and are only navigable for about 10 or 12 miles from the sea. The Tuy falls into the Caribbean Sea, south-east of Cape Codera. It drains the valley of the same name south of the town of Caracas, runs about 100 miles, and is navigable about half that distance. The Rio Tocuyo rises on the north-western declivities of the Paramo de las Rosas, and runs mostly in a north-eastern direction to the Caribbean Sea. Its course is 250 miles, and it is navigable for more than 100 miles from its mouth. The Rio Zulia falls into the Lake of Maracaybo, and becomes navigable a few miles below the town of El Rosario de Cúcuta.

The largest lake in Venezuela, next to that of Maracaybo, is the lake of Tacarigua or Valencia, which is traversed by 10° N. lat. and 68° W. long. : it lies in the Vales of Aragua, which are noted for fertility, and is 1366 feet above the sea-level. It is nearly 35 miles long and 8 wide in the widest part. The waters are continually decreasing, though 12 or 14 small rivers bring a considerable supply and the lake does not communi-

side with the sea. The surrounding country is very picturesque, and the lake contains 13 small well-washed islands; the largest of them, Burro, is about 3 miles long, and uninhabited.

3. Owing to the different degrees of heat and moisture which prevail in the different regions of Venezuela, there is a great variety of products. The cereals and fruits of Europe succeed only in a comparatively small extent of country, in the declivities of the Andes; in the hilly country north of the Parana de las Runas, which varies between 2250 and 3500 feet above the sea; in the vales of Aragua (about 1800 feet high); and in the vale of Caracas, which is nearly 2900 feet above the sea-level. In all the other parts only tropical grains and roots, with maize and rice, are cultivated. The objects of agriculture, which are cultivated with a view to exportation, are cacao, coffee, tobacco, indigo, and cotton: the sugarcane is also cultivated, but the produce is consumed in the country. The forests produce several kinds of wood suitable for drying and cabinet work: vacilla and sarsaparilla are collected in quantities sufficient to form articles of export. Timber is only exported from the river Tocuyo. Jesuits' bark is procured on the declivities of the Nevado de Mucuchies, and a considerable quantity of cortex angustura is collected in the vale of the Rio Caroni. The most important articles of export are derived from the Llanos de Caracas and Varinas, and consist of mules, ox-hides, and jerked beef. The number of black cattle in these regions amounts to several millions, and they are nearly in a wild state. Pearls were formerly fished along the northern coast on both sides of the island of Cubagua, but at present the fishery is not productive. In these parts of the sea, however, great quantities of fish are caught, which form an important article of trade. The mineral wealth of Venezuela is not great: silver mines were formerly worked near Barquesimeto, Caracas, and Villa de Cura, but they have long been discontinued. Gold is stated to exist in the alluvial tracts between the rivers Guainia and Vapes, but it is not collected. Gold is found in the small river Aroa, which falls into the sea, south of the mouth of the Rio Tocuyo, and in the neighbourhood a rich mine of copper is worked. There are unequivocal indications of iron, alum, sulphur, and some other minerals; salt in considerable quantity is collected in the lagoons of the peninsula of Araya, and in the vicinity of Coro.

4. The population is somewhat vaguely estimated at 900,000 individuals. It consists of whites, Indians, negroes, and a numerous mixed class: the whites, or descendants of Spaniards, are stated to amount to about 250,000; and the Indians, or pure blood, to 150,000; the negroes, who formerly exceeded 60,000 souls, have been greatly reduced by the war, in which Venezuela obtained its independence. The remaining population consists of mulattoes, mestizos, and zambos. The Indian tribes that inhabit the mountains of Venezuela, and also those in the vale of the Rio Caroni, have been civilised by the missionaries, and

subjected to the whites, but in other parts they have preserved their independence, as the Goahiros, on the peninsula of that name, the Cocinas, west of the lake of Maracaybo, and the Guaraons or Warrows in the Delta of the Orinoco. The tribes which inhabit the mountain region of Parime, as well as the tracts south of the Orinoco, may also be considered as independent, and they have not adopted the manners of Europeans. The civilised Indians are agriculturists and grow the grains and roots which are adapted to the countries which they inhabit.

The population is very unequally distributed. In the fertile and well-cultivated Vales of Aragua, there are 166 inhabitants to a square mile; in the Llanos and the mountains of Parime and the southern plains, there is hardly one individual to every three or four square miles. The most populous districts are those in which agriculture is the principal occupation, as on the declivities of the Andes, and in the Mountains of Venezuela. On the Llanos Altos and the banks of the Orinoco, agriculture has made little progress. The Llanos de Caracas and Varinas are only inhabited by herdsmen, and the mountains of Parime and the southern plains by native tribes, who chiefly gain their subsistence by the chase. The following table shows the relative population of the five departments of the republic.

Name of the Department.	Area in square miles.	Number of inhabitants.	Number of inhabitants on a square mile.
1. Maturin	42,180	140,000	Less than 3½
2. Venezuela or Caracas	61,680	420,000	Nearly 7
3. Zulia	42,576	165,000	Nearly 4
4. Apure	32,136	120,000	Nearly 4
5. Orinoco	225,516	60,000	One on 3¾ square mile
	404,088	905,000	

5. Each of the five departments into which Venezuela is divided consists of two or three provinces.

(A.) The Department of Maturin comprehends the north-eastern part of the republic. It extends from the Gulf of Paria westward to the river Unaré, and from the Caribbean sea to the Rio Orinoco, and includes the eastern portion of the mountains of Venezuela, the greatest part of the Llanos Altos, and the low lands of the Delta of the Orinoco, and those adjacent to the Rio Guarapiche. It consists of the provinces of Cumaná, Barcelona, and Margarita. The last comprehends only the island of that name, with some smaller adjacent islands. The surface of the department is nearly equal to that of England, without Wales and the county of York.

The navigable rivers, besides the Orinoco, are the Guarapiche, Neveri, and Unaré. It produces great quantity of cacao and tobacco, and also coffee. Salt is made on the peninsula of Araya. There are several civilised tribes of Indians; but the Guaraona in the Delta of the Orinoco are independent. Carupáno, on the peninsula of Araya, has a harbour and some trade. Cariáco, at the innermost corner of the gulf of that name, has a harbour and some trade in cacao. Cumaná, the capital of the department, is built on a sandy plain, about 3 miles from the shores; but vessels come up to the town by the small river Manzanares. It is well built, contains 12,000 inhabitants, and exports cacao and tobacco, coffee, and ox hides. Barcelona, near the mouth of the Neveri, contains 14,000 inhabitants, and has an active trade with the Columbian Archipelago, in mules, jerked beef and hides, which are brought from the countries contiguous to the Orinoco. In the interior are Cumanacóá, in a valley, which is 664 feet above the sea-level, and covered with plantations of tobacco, and El Pao, in the centre of the Llanos Altos, with 3000 inhabitants, and some inland trade.

(B.) The Department of Venezuela or Carácas, comprehends nearly the whole of the western portion of the Mountains of Venezuela, a small part of the Llanos Altos, and a large part of the cattle plains. It extends from the Caribbean Sea to the rivers Apuré and Orinoco. It consists of the provinces Carácas, Carabobo, and Coro, and its area exceeds that of England and Wales. The navigable rivers are the Tuy, Aroa and Tocuyo. The number of Indians of pure blood is comparatively small, but the mixed race is numerous. The fertile valleys produce all kinds of tropical plants and fruit, and the plains furnish jerked beef and hides. La Guayra, the harbour of Carácas, is an unhealthy place, which has only an open roadstead exposed to the swell of the sea: the population is 6000. Puerto Cabello has a good harbour, 7000 inhabitants, and a very active trade, being the sea-port of the Vales of Aragua. Coro is built on that portion of the Gulf of Venezuela which is called El Golfetto, on a sandy soil, but as the harbour is good and advantageously situated, it carries on an active trade with the Columbian Archipelago, and is stated to contain 10,000 inhabitants. The towns in the interior are situated either in the fertile vallies, or at the foot of the mountains, and contiguous to the cattle plains. The town of Carácas, the capital of the republic, and the seat of the legislature and government, is situated in a small valley, connected with the vale of the river Tuy, 2822 feet above the sea-level. It is divided from its port Guayra, which is about 16 miles distant, by a ridge, the highest part of which on the road is 5160 feet: this ridge contains the Silla de Carácas, a summit 8631 feet high. The town is regularly built on the declivity of the range and has wide streets. The climate is healthy. The cathedral was much damaged in 1826 by an earthquake; and the city suffered greatly from one also in 1812. Carácas has a university, about 50,000 inhabitants, and carries on a considerable trade in all the products of the adjacent valleys.

In the fertile Vales of Aragua are, Vittoria, San Matheo, Turmero, Maracay and Valencia, which are well built and thriving places, containing from 6000 to 12,000 inhabitants: they send the produce of their rich crops to Puerto Cabello. S. Felipe, in a fertile and well cultivated district, has 7000 inhabitants: the rich copper mines of Aroa are in its vicinity. Carora has 6200 inhabitants, and some manufactures in leather and ropes. Tocuyo, built in a fertile and extensive valley, in which much wheat is cultivated, carries on an active commerce in that article and in salt from Coro: it has some manufactures of woollen stuffs: population 6000. Along the foot of the mountains are the towns of S. Carlos, with 10,000 inhabitants; Araure, with 11,000 inhabitants; and Guanare, with more than 12,000 inhabitants. These places owe their prosperity to their situation at the openings of large valleys in which tropical productions are cultivated, and to the rich pastures in the contiguous cattle plains.

(C.) The Department of Zulia comprehends the country which encloses the lake of Maracaybo, the northern declivity of the eastern Andes included. It contains the provinces of Maracaybo, Truxillo, and Merida. The surface is nearly equal to that of England without Wales. Some of the rivers which fall into the lake of Maracaybo are navigable, as the Motatan, Chama and Zulia, but only the last is navigated. The productions are cacao, indigo, tobacco, and black cattle; which last are reared in great numbers in the vicinity of the capital. The population is a mixed race and is numerous: the two tribes of Indians, the Cocinas and Goahiros, inhabit the western districts: they are not subject to the whites, and sometimes are at war with them. Maracaybo, the capital of the department, is built on a sandy soil on the western shores of the strait, which connects the Lake of Maracaybo with the Gulf of Venezuela; it carries on a considerable trade in the products of the adjacent country, and those brought down from the Río Zulia, and is stated to contain a population of 25,000. S. Faustino is a small but thriving place on the Zulia, where that river becomes navigable for river-boats. Merida stands on an elevated table-land, on the northern declivity of the Andes, and near the snow-capped summit of the Nevado de Mucuchies: it is well built, but it suffered much from the earthquake of 1812; before that time it contained 12,000 inhabitants. Truxillo likewise stands on a table-land, near the foot of the Páramo de Niquitao, in a country which produces wheat and tropical plants; it contains about 12,000 inhabitants.

(D.) The Department of Apuré comprehends the southern declivity of the Andes, and a great portion of the cattle plains: it consists of the provinces of Varinas and Apuré, and is the smallest of the departments, the surface not much exceeding that of half of England, Wales included. All the rivers fall into the Orinoco, and several of them are navigable, as the Apuré, with its affluents the S. Domingo, and the Portuguesa.

The commercial productions are derived from the herds of cattle, and the plantations of tobacco and cacao and coffee. There are few Indians of pure blood, the bulk of the population consisting of the mixed race. The principal places are Varinas, which stands on the banks of the Rio S. Domingo, a few miles above Toruno, where that river becomes navigable. It is built at the opening of a valley, which is covered with plantations of tobacco, and other tropical products, in which, and the produce of the cattle from the adjacent Llanos, a considerable traffic is carried on with Angostura on the Orinoco. The population is 12,000. San Jaymé, at the confluence of many smaller rivers with the Portuguesa, has about 7000 inhabitants, and is the depôt for such foreign commodities as are consumed in that part of the Llanos. San Fernando de Apuré, near the confluence of the rivers Apuré and Portuguesa, has 6000 inhabitants, and carried on a considerable trade in the produce of the herds of cattle which pasture on the lowest parts of the Llanos.

(E.) The Department of Orinoco comprehends the whole country that is enclosed by the winding course of that river, and also the low countries which extend south of it to the boundary line of Brazil. It is also known by the name of Guayana. It is the largest of the departments of the republic, the area being equal to nearly twice the surface of the British islands, or larger than that of France. It is drained by the Orinoco and its eastern affluents, among which the Ventuari, the Caura, and the Caroni, are the largest; the navigation of the Caroni is impeded by great falls near its confluence with the Orinoco. This department contains the Cassiquiare, or that natural canal which branches off from the Orinoco, where it issues from the mountains of Parime, and running in a south-south-western direction, falls into the Guaïnia or Rio Negro. The most southern districts of this department are watered by the Guaïnia, and its affluent, the Uapes. The number of agricultural settlements is very small, and confined to the banks of the Orinoco and Caroni. The articles of commerce are derived from the forests (vanilla, sarsaparilla, and cortex angostura), and from the cattle farms. In this department the native tribes are numerous, and all of them are independent, or only subject to the missionaries, who have established several missions on the river Caroni, and the Upper Orinoco. The capital is Angostura, on the banks of the Orinoco, about 240 miles from the sea. Vessels of 300 tons burden sail up to the town, which carries on a considerable commerce in articles brought from the Llanos of Carácas and Varinas. The population is 6000. Barceloneta on the Caroni in the centre of the Misiones on this river, has about 2000 inhabitants.*

6. Unless the rudest arts of civilised life are considered as belonging to manufacturing industry, this branch of business can hardly be said

* The present division of the departments of Venezuela does not appear to be quite certain. That division has been here adopted, which on the whole appears to have the greatest probability of being the actual division.

to exist in Venezuela. Tanned leather, and the morocco leather prepared in Corora, and the blankets made in Tocuyo, are manufactured on a very small scale. The great number of natural productions, and the great quantity of some of them, support an active commerce. In the beginning of this century, Humboldt estimated the exports of Venezuela at nearly 6,000,000 of Spanish dollars, equal to 1,333,333*l*. English money. The exports of La Guayra amounted, according to his statement, to 2,400,000 dollars; those of Cumaná and Nueva'Barcelona, to 1,200,000 dollars; of Maracaybo and Angostura to 1,000,000; and those of Carupano and some smaller ports to 800,000 dollars. During the war of independence agriculture was much neglected, and the amount of exports decreased. In 1824, a year after that event had taken place, the exports of La Guayra did not exceed 1,650,000 dollars, though some of the articles sold at a higher price. The disturbed state of the country has prevented the trade from improving, as is apparent from the British imports, which, though by far the most important, did not exceed 200,000*l*. annually, between 1829 and 1837, on the average of that period. As the natural regions, into which the country is divided, differ considerably in their productions, an active commercial intercourse is established between them, which, however, is rendered expensive by the want of roads, as all the goods must be transported on mules and horses.

7. The eastern coasts of Venezuela were discovered by Columbus in his third voyage in 1498, and the western by Alonso de Ojeda in 1500. The Spaniards had some trade with the native tribes, and a few missionaries attempted unsuccessfully to convert them. The first settlement was made in 1520, by Ocampo at Cumaná, which was then called Toledo. In about 1528, the Emperor Charles V. bestowed this country on the Welser, a rich mercantile family of Augsburg, as an hereditary fief of the crown of Castile; but under their dominion, which lasted nearly twenty years, the condition of the country was not improved. After the Crown of Spain had resumed possession of Venezuela (in 1550), one of the governors, Diego Losada, founded in 1567 the town of Carácas. The progress of the country towards civilisation was slow in the seventeenth century, but in the eighteenth it was more rapid, owing chiefly to the smuggling trade carried on between it and the Dutch and English colonies in the Columbian Archipelago. The advantage derived from this trade made the creole inhabitants of the country aware of the still greater profits which might accrue from a free trade, which could only be had by a separation from Spain. In 1806, Miranda, a native of Venezuela, made an unhappy attempt to revolutionise the country. But after the reigning family in Spain had been deposed, a revolution took place in 1810, and on the 5th of July the independence of Carácas, as the country was then called, was proclaimed. This was soon followed by a war, which after the restoration of Ferdinand, became very sanguinary,

and lasted to 1823, when the Spaniards gave up their last possession, Puerto Cabello. In the mean time the neighbouring country, New Granada, had also expelled the Spaniards, and both countries were united in 1819 under the name of Columbia. A constitution was formed in 1821 by the Congress held in Rosario de Cúcuta. In 1823 the kingdom of Quito acceded to the Union. In 1829 Venezuela seceded from the Union, and in 1831 the two other republics also separated. It does not appear that there have been any considerable changes in the government as established before the Union was dissolved. The constitution of the republic is a central and not a federal government. The legislature consists of two bodies, a senate, and a house of representatives. Each province sends two members to the senate, and to the house of representatives a member for each 40,000 inhabitants. The head of the executive is a president, who is chosen for eight years, and assisted by a vice-president and a council.

II. NEW GRANADA.

1. *Situation, Extent, and Boundary.* 2. *Surface and Soil, Mountains and Plains, Rivers and Lakes.* 3. *Climate and Productions.* 4. *Population and Inhabitants.* 5. *Political Divisions and Towns.* 6. *Manufactures and Commerce.* 7. *History and Government.*

1. NEW GRANADA occupies the north-western part of South America, and extends from the boundary of Ecuador on the south (40° N. lat.) to the Rio Calancala ($11^{\circ} 40'$ N. lat.) on the north, about 800 miles in length. It lies between 70° and 83° W. long. The greatest breadth occurs between 4° and 6° N. lat., where it extends from the banks of the Rio Orinoco, between the mouths of the rivers Guaviare and Meta, to the shores of the Pacific, a distance exceeding 600 miles.

On the east it borders on the republic of Venezuela: and the boundary-line between these states has been already indicated. On the north is the Caribbean Sea, which here forms the deep Gulf of Darien or Uraba, and the small Gulf of Mandingo, and near the western extremity of the republic, the Laguna de Chiriqui. On the west of it is Central America, from which it is separated by an imaginary line drawn across the Isthmus of Panamá, beginning on the shores of the Caribbean Sea, a few miles west of the Laguna de Chiriqui, and terminating in Cape Boruca on the Pacific, which here forms the extensive Gulf of Panamá. Further south it is washed by the Pacific. The boundary between New Granada and Ecuador is not exactly settled. Humboldt says, that it runs along the river Guaitara (near 1° N. lat.), an affluent

of the Rio Patia; but according to an original map of the Department of Cauca, which is found in 'Hamilton's Travels,' it lies about 20' farther south, so that the greatest part of the mountain-knot of Los Pastos is included in New Granada. Still more uncertainty prevails where these two republics border on each other in the Llanos, and only the necessity of having a boundary-line on the maps has led geographers to consider it as formed by the Rio Negro or Guainia.

2. Within these boundaries are included the whole of the ranges of the western and Central Andes, together with the mountain-region which unites their northern extremities and occupies the country between 5° and 8° N. lat., east of the course of the Rio Magdalena. The whole of the valleys of the rivers Magdalena, Cauca, Atrato, and San Juan, lie also in New Granada, and likewise the low lands along the coast of the Caribbean Sea, between the mouths of the Rio Magdalena and the Rio Atrato. The isthmus of Panamá and Veragua constitutes the north-western portion of the republic, and forms one of its departments. The entire range of the Eastern Andes is not within the boundary-line of New Granada, but it includes about three-fourths of the whole. To the east of this range extend the great plains called the Llanos, of which a very large part belongs to New Granada. The most south-western part of the republic is formed by the mountain-region of Los Pastos, including the Vale of the Rio Patia. These regions differ greatly in their productive powers and in healthiness: a table of their extent in square miles, according to a rough estimate, is added.

1. The country between the two low ridges, which inclose the lake of Maracaybo on the west, and the vale of the Rio Magdalena on the east, together with the Sierra de Santa Marta, and the coast between the Rio Calancala and the Cienega de Santa Marta, contain 14,500
2. The eastern Andes of New Granada, with the adjacent plains and table-lands, including the mountains of Ocaña, and extending from Tocayman on the south to the source of the Rio Catatumbo on the north, contain . . . 32,800
3. The upper part of the vales of the Rio Magdalena and Cauca, including the central Andes, as far north as Honda and the Salto de San Antonio (north of 5° N. lat.) 33,500
4. The mountain region east of the vale of the Rio Magdalena, between 5° and 8° N. lat., occupying nearly the whole country between the Rio Magdalena and the Rio Atrato 22,500
5. The low country, north of 8° N. lat., extending along the Caribbean sea from the Cienega de Santa Marta to the Gulf of Darien, and including the lower part of the

vale of the Rio Magdalena, as far south as the mouth of the Rio Sogamozo	36,400
6. The Isthmus of Panamá and Veragua	25,000
7. The country along the Pacific, including the vale of the Rio Atrato, and the western Andes, south of 5° N. lat.	38,000
8. The mountain region of Los Pastos	16,800
9. The Llanos between the eastern Andes and the rivers Orinoco, Guafnia, and Vapes	160,000
	<hr/> 379,500

The first region is stated to have a good soil, and in general a healthy climate. The greatest part of it is covered with trees, but it also contains considerable savannas with good pasture ground. It is very thinly settled. The second region contains the páramos of the Andes, which are extensive table-lands on the summits of the range, nearly without vegetation, but they occupy a small portion of it, the remainder being in general very fertile, and the climate favourable to the cultivation of European cerealia and fruits: the north-western districts have tropical products. In the vales of the third region tropical plants are cultivated, and the vales are comparatively well settled, but no kind of cultivation seems to extend to the declivities of the Central Andes, probably on account of the steepness of the ascent. The fourth region has an arid and rocky soil, and a very small portion of it is cultivated, but it is rich in gold and silver: it is very thinly settled. The fifth region is distinguished by fertility, as the greater part of its surface is an alluvium, but being very unhealthy, owing to the superabundance of moisture, and the quantity of stagnant water, it is very thinly settled, except along the banks of the Rio Magdalena. It produces only tropical plants, and is still almost entirely covered with wood. The eastern part of the Isthmus of Panamá is also covered with wood, and is fertile, but unhealthy, and consequently thinly inhabited: but the western part contains large savannas, and the more elevated districts have a fertile soil and a healthy climate; it is tolerably well peopled. The seventh region is a continuous forest, and unhealthy in the highest degree from the incessant rains and the great heat. The mountain region of Los Pastos is in general too elevated for the cultivation of grain, but it contains excellent pastures, and in some of the valleys European cerealia are grown. The northern portion of the Llanos, as far south as the vicinity of the Rio Vichada, is a continuation of the cattle plains of Carácas and Varinas, and supplies pasture to countless herds of cattle and horses, but the greater part of the southern districts is covered with lofty trees, intermingled with extensive swamps, and very unhealthy. It is only inhabited by native tribes.

Several of the numerous affluents of the Orinoco, are navigable, but they are not navigated, with the exception of the Meta and its affluent the

Cazanare. The other large rivers are the Magdalena, Cauca, and Atrato. The following tributaries of the Magdalena are navigated, the Rio Cesare, which comes from the lake of Zapatosá, the Cañaverales, the Sogamozo, and the Rio Negro. These rivers fall into the Magdalena from the east. Among its numerous affluents from the west only the Nare is navigable. It is not known if any of the affluents of the Cauca are navigable. The tributaries of the Atrato are not navigated. Among the minor rivers, are the Sinú, Chagres, San Juan, and Rio Patia; the Sinú is navigable as far as Lórica, the Chagres up to Cruces, and the San Juan to Novita; but it is not known how far the Rio Patia is navigated.

Numerous small and deep alpine lakes occur on the slopes of the mountain ridges and on the páramos, but large lakes are not numerous in the interior. The lake of Zapatosá, which formerly made a considerable figure on our maps, is small. On the western declivity of the Eastern Andes, north of the town of Bogotá, is the lake of Foucany, which occupies the greater part of a plain about seventy miles long, and more than fifteen wide, but in no part is more than six feet deep. The mountain region of Los Pastos contains the large alpine lake of Sebondoy, which is considered as the source of the Rio Putumayo, an affluent of the Amazonas: its actual dimensions are not known. Along the coast of the Caribbean sea there is a large number of lagoons, called *ciénegas*, which receive the sea-water at high tides, but at low tides render the adjacent countries unhealthy by their evaporation. The largest are the Ciénega de Santa Marta, by means of which a water communication between Santa Marta and the Rio Magdalena is carried on; and the Ciénega de Tosca, north-east of Cartagena, which is more than forty-five miles long.

3. There is a great difference of climate, between the páramos, the elevated table-land of Bogotá, the vales of the Magdalena and Cauca, and the low districts along the Caribbean sea and the Pacific, and this difference produces a corresponding variety in productions. The European cerealia, with potatoes, and the aracacha root, are the principal objects of agriculture on the table-land of Bogotá, and in the districts north of it along the western declivity of the Eastern Andes. In the vales of the great rivers, and on the low plains along the coast, maize, plantains, and several roots are cultivated for food: cotton, cacao, tobacco and sugar, are cultivated as articles of commerce, but the last-mentioned article is not considerable. The woods contain many kinds of useful trees, and a few of them furnish articles of export, as the brasileto and fustic from the forests which enclose the Sierra de Santa Marta. Considerable quantities of cinchona and ipecacuanha are collected, the latter on the banks of the Rio Magdalena, the former on the Sierra de Santa Marta, and the Andes of Merida, Santa Fé, and Popayan. The balsam of Tolú is collected on the banks of the Rio Sinú. The plains of Cazanare feed large herds of cattle, and supply jerked beef and hides, as articles of commerce.

Panama were formerly mined in the sea opposite the mouth of the Rio Hacha, and a small quantity was still procured in the Bay of Panamá.

Nearly all the metals occur in New Granada. Gold is found in the Central and Western Andes. In the vale of the Rio Cauca it is procured by washing the sands of rivers and some alluvial soils. In the mountain region of Antioquia it is got by mining; it abounds still more in the countries along the Pacific, and occurs also in the Rio Zulia, and the Rio Hacha. Platinum is found along the Pacific, in the provinces of Chocó and Barbacoas. Silver is less abundant, and occurs only in a few places in the mountain-region of Antioquia, and in the Eastern Andes. There are traces of quicksilver in the Central Andes near the mountain-pass of Quindío, and on the banks of the Rio Sinú. Iron ore and copper ore occur in several places, especially in the mountains of Antioquia, but they are not worked; tin and lead are also found; emeralds are very abundant in a river north of the town of Bogotá, but they are generally small; coal occurs in abundance on the plain of Bogotá, and is also found on the banks of the Rio Sinú. According to Humboldt a stratum of rock salt traverses the Eastern Andes, between 5° and 6° N. lat. from south-west to north-east; it is worked at its extremities, at Zipaquira, on the plain of Bogotá, and at Chica, in the Llanos of Carabobo.

4. The population consists of the descendants of Spaniards, Indians, negroes, and the mixed races. The negroes and mambos, were formerly numerous in the mining districts of Antioquia and along the Pacific, but both races have been much reduced by the war of independence. They formerly amounted to 60,000 souls: they are at present about one-fourth of that number. The Indians are either civilised or wild. At the time of the arrival of the Spaniards an Indian tribe, the Muyscos, inhabiting the table-land of Bogotá, and the adjacent countries, had attained a considerable degree of civilisation, and their descendants still inhabit the western declivity of the Eastern Andes, and the vale of the Upper Magdalena. The inhabitants of the mountain-region of Los Pastos seem to be Peruvians. The Indians who have been civilised by the missionaries inhabit the north-eastern part of New Granada, between the lake of Maracaybo and the town of Cartagena, and also the lower vale of the Cauca. In the upper vale of that river there are no Indians. The native tribes along the Pacific do not appear to have much improved since the arrival of the Spaniards, and those of the isthmus of Panamá are entirely independent, and in a state of hostility to the whites who are settled in their vicinity. The Cattle Plains are mostly peopled by the mixed races, especially mestizos, and the Wooded Plains are entirely in the possession of native tribes who are in the lowest stage of civilisation. According to a rough estimate, the population consists of whites, Indians of pure blood, and mixed races, in nearly equal parts.

According to a census published in 1827 the whole population amounted to 1,270,000 inhabitants; but it was supposed that it fell short of the

true number, which probably amounted to 1,400,000, or at least to 1,360,000 inhabitants. This population was distributed among the five departments as follows :—

Name of Department.	Extent in square miles.	Number of Inhabitants.	Number of Inhabitants on a square mile.
Istmo	25,000	100,000	4.
Magdalena	50,900	250,000	5.
Boyàca	83,000	450,000	5½.
Cundinamarca . .	152,800	370,000	Less than 2.
Cauca	68,300	190,000	3.
	380,000	1,360,000	

The most populous parts are the central districts of Boyàca and Cundinamarca; and the province of Veragua in Istmo; the vale of the Rio Magdalena and the upper vale of the Rio Cauca are much less populous. The other parts are thinly inhabited, and with the exception of a few small independent tribes, the Wooded Plains contain no inhabitants at all. }

5. Each of the five departments consists of from two to four provinces.

(A) The department of Istmo contains the provinces of Panamá and Veragua. The chief towns are mentioned p. 116, etc.

(B) The department of the Rio Magdalena comprehends the countries from the boundary of Venezuela westwards along the sea to the Gulf of Darien and the basin of the Rio Atrato, and it consists of the provinces Rio de la Hacha, Santa Marta, Cartagena, and Mompox. It is only tolerably well settled along the coast and along the course of the Rio Magdalena: in the other districts there are only a few Indian families. Besides the Rio Magdalena, which here unites with the Rio Cauca, it comprehends the rivers Cesare and Cañaverales, two affluents of the Magdalena, and the Rio Sinú. The commercial products are cotton, cacao, tobacco, specacuanha, cinchona from the Sierra de Marta, balsam of Tolu, and dye-woods. Some of the rivers contain gold dust, but it is not collected. Among the principal places are Cartagena, with a harbour 33 miles in length, which is formed by the islands of Tierra Bomba and of Barú: it has three entrances, Boca Grande, Boca Chica, and the Estero de Pasacaballos. The Boca Chica, through which vessels usually enter, is between 17 and 18 feet deep, and it admits large vessels, but is 28 miles distant from the town. The town is well built and strongly fortified, but it suffers from want of water. It has a considerable commerce in the

productions of New Granada, and 18,000 inhabitants. In the Estero de Pasacaballos, which can only be navigated by small vessels, begins the Digue de Mahates, which is partly artificial, and leads from Cartagena to Baranca on the Rio Magdalena: it is only navigable for three months of the year. Near the village of Turbaco, a few miles from Cartagena, there are some low conical hills, called Volcancitos, from the craters of which pure azotic gas, and sometimes mud is emitted. Savanilla, at the mouth of the Rio Magdalena, has a small harbour which is rarely used, as the river near its mouth as far as Baranquilla, is too shallow even for river boats. Baranca Nueva is a thriving place, situated where the Digue de Mahates enters the Rio Magdalena, at which the goods brought from Cartagena are embarked on the Magdalena, and those which come down that river are disembarked. Santa Marta has a good harbour, and a considerable commerce with the Columbian Archipelago: it exports a great quantity of dye-woods. By means of the Cienega de Santa Marta and some other lakes which are united by natural channels, imported goods are forwarded to the Rio Magdalena: the population of Santa Marta is 8000. Ciudad de la Hacha is situated near the boundary of Venezuela, and has a small harbour adapted for vessels of light burden. Mompo, on the banks of the Rio Magdalena, is a considerable town with 10,000 inhabitants; it is the depôt of all the foreign goods destined for the consumption of the valley of that river. It is well laid out, but badly built; the street runs along the river for nearly two miles. Lorica stands on the banks of the Rio Sinú, at the place where it begins to be navigable; it has 1000 inhabitants and some trade. Ocaña not far from the mountains of that name, has 5000 inhabitants and a considerable inland trade, the transport of goods being facilitated by the navigable river Cañaverales.

(C) The department of Boyacá contains the whole of the Eastern Andes, extending between the plain of Bogotá, the boundary of Venezuela, and the Cattle Plains of Casanare; it consists of the provinces of Pamp-lona, Socorro, Tunja and Casanare. The first three are situated within the mountain-region, and constitute the best-peopled portion of New Granada. The wheat which is cultivated in these provinces is sent to other parts of the republic, and cacao, cotton, coffee, tobacco and indigo are exported from the northern districts. At Chita there are considerable mines of rock salt. The Llanos supply jerked beef and ox-hides. Besides the Rio Magdalena, which forms its western boundary, it contains the navigable rivers Sogamozo, Zulia, and Casanare and Meta. The inhabitants are chiefly whites or half-breeds: the number of Indians is small. Rosario de Cúcuta is a thriving town on the banks of the Rio Zulia, a few miles above the place, where it becomes navigable and near the boundary of Venezuela; it is the depôt for the produce of the surrounding countries, which is shipped here for Maracaybo in order to be exported. It has 5000 inhabitants, and in the vicinity much cacao is grown.

Salazar de las Palmas is a considerable place, situated in the midst of plantations of cacao. Pamplona stands on a table-land of moderate extent, which is on the northern declivity of the Andes, 8000 feet above the sea-level. In the neighbourhood there are some mines of gold: the population is 4000. La Grita is a considerable place in a well-cultivated country, and has commercial connexions with Maracaybo. Girona not far from the banks of the Cañaverales, carries on an active commerce with Mompox; excellent tobacco is grown in the vicinity. Socorro, built on the declivity of a mountain, has 12,000 inhabitants, and manufactures coarse cotton stuffs and straw hats. Tunja not far from the boundary of the department of Cundinamarca, is the capital of Boyàca, and contains 7000 inhabitants. In the Llanos of Cazanare are Cazanare, Poré, and Chita, all small places.

(D) The department of Cundinamarca comprehends the whole of the mountain-region of Antioquia, the upper vale of the Rio Magdalena, the Eastern Andes as far north as 5° N. lat. and all the Wooded Plains: it consists of the provinces of Antioquia, Mariquita, Neyva and Bogotá. On the plain of Bogotá the European cerealia and the aracacha root are grown, but in the other districts only tropical grains and plants, among which the cacao of the upper vale of the Rio Magdalena is distinguished, especially that of Timana, which is near the source of the river. There are rich mines of gold and silver in the north districts, and salt and coal in the Andes. Among the affluents of the Rio Magdalena only the Rio Negro is navigable. Several affluents of the Orinoco and Guainia are also navigable, but they are not navigated. The inhabitants are whites, Indians, and mixed races, nearly in equal proportions. Antioquia, on the banks of the Rio Cauca, contains 4000 inhabitants, and has some mines in the neighbourhood. Santa Rosa, a small place, has rich gold mines. Medellin, the capital of the province of Antioquia, in a fertile and well cultivated valley, contains 9000 inhabitants. Mariquita, a small town, has some gold mines. Honda, near the confluence of the Rio Guali, with the Rio Magdalena, carries on a considerable trade. Ibagué, situated at the point where the road that crosses the Central Andes by the Pass of Quindíú commences, has 5000 inhabitants. Excellent tobacco is cultivated near Ambalema. Neyva, on the Rio Magdalena, has about 3000 inhabitants, and is the commercial centre of the higher part of the vale of the Rio Magdalena. Timana, near the source of the Rio Magdalena, is noted for its excellent cacao.

Bogotá, the capital of New Granada, stands on the east side of the plain of Bogotá, 8958 feet above the sea, and 8280 feet above the surface of the Rio Magdalena at Honda. At the back of the town the mountains rise nearly 2000 feet with a steep ascent, like a wall of rock, and on them are situated the convents of Montserrat and Guadalupe. The town is regularly built, but the houses are low, on account of the frequent occurrence of earthquakes. The palace of the

former viceroys is inhabited by the president of the republic: the senate assembles in a wing of the convent of the Dominicans, and the chamber of representatives in a private house. The cathedral was a noble building, but it was ruined by an earthquake in 1827. The University consists of three colleges, all well situated and well built. The population amounts to between 30,000 and 40,000. This town owes its importance to the circumstance of having been for a long time the seat of government. The mountains at the back of the town contain the source of the Rio San Francisco, which traverses the city, and in the centre of the plain joins the Rio Bogotá or Rio Funzha, which running southward, and turning to the south-west, descends from the plain by the cataract of Tequendama, and through a ravine nearly 40 miles long. At the cataract the cleft between the rocks is only 36 feet wide. The water descends in an unbroken mass, 900 feet when the river is full, but in the dry season the fall is interrupted by two projecting rocks. Somewhat further to the east is the natural bridge of Icononzo or Pandi, which is formed by two large rocks that unite the opposite sides of a deep cleft in the mountains. The upper rock is 300 feet above the surface of the torrent, and the lower about 240 feet. North of the city is the Campo de Gigantes, on which gigantic fossil bones are found. The Campo also contains coal-fields, and towards the northern border of the plain the rich salt mines of Zipaquira. Here also is the small lake of Guatavita, into which it is supposed that the ancient inhabitants threw an immense number of golden articles. About twenty years ago an attempt was made to drain this lake for the purpose of getting these treasures; but the attempt did not succeed. On the descent from the plain of Bogotá to the banks of the Rio Magdalena stands the town of Guaduas in a fine valley, 3768 feet above the sea: it has a population of 4000 souls. In this valley sugar and tropical fruits are cultivated.

(E) The Department of Cauca comprehends the western part of New Granada, the vale of the Rio Atrato, the countries along the Pacific, the upper vale of the Rio Cauca, and the mountain-region of Los Pastos: it consists of the provinces Chocò, Buenaventura, Popayan, and Pasto; and it is drained by the upper course of the river Cauca, and the rivers Atrato, S. Juan, and Patia. The principal products are gold and platinum, collected on the coast of the Pacific, and in the vales of the rivers Atrato and Cauca, the produce of the herds which pasture in the savannas of the Rio Cauca, and the cacao grown along the coasts of the Pacific. The vale of the Rio Cauca is almost exclusively inhabited by whites, and all the other districts by Indians, intermixed with half-breeds, and a few negroes. The canal of Raspadura connects the upper courses of the rivers Atrato and S. Juan, and is navigable for canoes during four or five months in the year. Quibdo or Citara, on the Rio Atrato, has some commerce with Cartagena: the flat-bottomed vessels which are used in the navigation of the river, also traverse the sea be-

tween the mouth of the Atrato and Cartagena, and enter the port of the last-mentioned town by the Estero de Pasacaballos: the population is 3000. Novita, not far from the sources of the Rio S. Juan, at the western extremity of one of the passes over the Western Andes, has 2000 inhabitants. Buenaventura, a good harbour on the Pacific, is only inhabited by a few half-bred families. A very difficult road leads from it over the Western Andes to the town of Cali, in the vale of the Rio Cauca, which is well built, has a considerable commerce, and 4000 inhabitants. In the same vale, but farther to the north, is Cartago, with 3000 inhabitants; which is situated at the western extremity of the long mountain-pass of Quindiu. Popayan, the capital of the department, is in a small plain, at the southern extremity of the vale of the Cauca, not far from the snow-capped volcano of Puracé and the Rio Venagre or Vinegar River. It is a well-built town, and contains above 20,000 inhabitants. Almaguer, with 4000 inhabitants, stands in a valley in the mountain-region of Los Pastos, 7440 feet above the sea. Pasto, built at the foot of a terrible volcano, in a plain 8577 feet above the sea-level, is enclosed by woods and bogs. The great road which leads from Popayan to Quito, passes through Almaguer and Pasto.

6. The manufacturing industry of New Granada is limited to the making of coarse woollen and cotton stuffs, which are chiefly made by the lower classes for their own consumption. The maritime commerce is less active than that of Venezuela: the produce of the most populous districts, the mountainous country of Boyaca, is sent by the Rio Zulia to the Venezuelan harbours of Maracaybo. The produce of the vale of the Magdalena descends that river to Santa Marta and Cartagena. The produce of the vale of the Upper Cauca is transported across the Western Andes, partly on the backs of men, to the port of Buenaventura: some vessels from 100 to 120 tons go annually from Citara to Cartagena. The want of roads in most districts, and the small population in some, render travelling in the interior very difficult, except along the navigable rivers.

7. New Granada was discovered by Alonzo de Ojeda, who in 1499 sailed along the northern coast past Cape de Vela, and in a subsequent voyage extended his discoveries to the Gulf of Darien. The peculiar conformation of the coast on this gulf soon attracted the attention of the Spaniards; and in the sixteenth century several towns were founded near the mouth of the Rio Atrato; as Santa Maria la Antigua, del Darien, Uraba, and San Sebastian de Buenavista, of which no traces now exist. After Peru and Quito had been subjected to the sway of the Spaniards, they obtained information of the rich and well-peopled country near the Eastern Andes, and then New Granada was taken possession of by an army sent from Quito, under the orders of Benalcazar, and Ximenes de Quesneda: the latter built the town of Bogota in 1545. The Spaniards remained in possession to 1811, when the country declared

its independence of Spain. This was followed by a war, which only terminated in 1821. In the mean time New Granada, or as it was then called Cundinamarca, had formed a union in 1819 with Venezuela, and both countries adopted the common name of Columbia. In 1823 Quito joined them; but the union was dissolved in 1831, and from that time the three countries have formed three separate republics. According to the constitution adopted before the dissolution of the union, the legislature is composed of a senate and a house of representatives. Each province sends two members to the senate, and one member to the chamber of representatives for every 40,000 inhabitants. A president, chosen for eight years, has the executive power: he is assisted by a council and a vice-president.

III. ECUADOR.

1. *Situation, Extent, and Boundaries.* 2. *Surface and Soil. Mountains and Plains, Rivers and Lakes.* 3. *Climate and Productions.* 4. *Population and Inhabitants.* 5. *Political divisions and Towns.* 6. *Manufactures and Commerce.* 7. *History and Government.*

1. ECUADOR extends from north to south, from $1^{\circ} 40'$ N. lat., to $5^{\circ} 50'$ S. lat.; a distance exceeding 500 miles. On the coast, the northern boundary is marked by the river Mira, and the southern by the Rio Tumbez. From east to west it extends between 69° and 81° W. long., about 830 miles. On the west of Ecuadór is the Pacific Ocean, which here forms the Gulf of Guayaquil: on the south is Peru, from which it is divided by the Tumbez up to the point where that river issues from the Andes, and afterwards by this mountain-range as far as the Rio Chinchupe, which falls into the Rio Amazonas south of San Jaen de Bracamoros: the remainder of the boundary-line between Ecuadór and Peru, is formed by the Rio Amazonas. Ecuadór is separated from Brazil by a line which begins on the north bank of the Rio Amazonas, opposite the mouth of the Rio Yavari, and runs northward till it meets the Rio Negro or Guañia, which is considered as separating the plains of Ecuadór from those of New Granada, which lie to the north: further west the boundary-line between these two republics runs along the Eastern Andes from the source of the Guañia to that of the Yapurá and Putumayo; it then crosses the mountain-knot of Los Pastos, near $40'$ N. lat., and follows the course of the Rio Mira to its mouth in the Pacific.

2. Ecuadór contains nearly the whole of the Equatorial Andes, together with the hilly country between them and the Pacific, and the

great plains, which extend from the mountain-range on the east, to the boundary of Brazil. These three regions occupy the surface in the following proportion, according to a rough estimate :

Square Miles.

(A) The Equatorial Andes with both their declivities, of which the western is very steep, and the eastern extends to a line beginning on the Amazonas, at the Pongo de Manseriche, (66° 30' W. long.) and running in a northern direction to Santa Rosa de Oas on the Rio Napo, and hence to the source of the Putumayo, contain	65,000
(B) The hilly country west of the Andes, extending from the Bay of Guayaquil to the mouth of the Rio Mira, occupies an area of	42,000
(C) The great plains east of the Andes occupy more than two-thirds of the surface, namely	208,000
	<hr/> 315,000

The first region contains a great variety of soil. The exterior declivities of the Andes are mostly covered with trees, but they are too steep for cultivation. The interior declivities of the two parallel ranges have either trees nor vegetation, probably owing to the volcanic nature of the rocks, and the active fire which they still contain. The plains which lie between the two ranges, have a fertile soil, and in the higher tracts, produce the European cerealia; while in the lower the cane and some tropical plants and roots are cultivated. On the more elevated declivities there are extensive pasture-grounds. The second region includes the wide valley of the Rio Guayaquil with its alluvial soil and extensive plantations of cacao. The remainder of this region is less distinguished by fertility, being more elevated and not subject to inundations, but it yields in many districts good crops of tropical products, which are very plentiful in the valley of the river Dañli, an affluent of the Guayaquil. The vales of these two rivers are well settled, but the remainder of the second region is thinly inhabited. In the southern districts there are several savannas, but the northern parts are almost entirely covered with lofty trees. The great eastern plains are not so level as those which are drained by the Orinoco and its affluents; in the country where the rivers Guafnia and Uaupes originate, a mountainous tract is said to cover a considerable surface, but to rise only to a moderate elevation: it does not appear to be connected with the Andes. The whole region is covered with trees, with the exception of some tracts near the foot of the Andes, where savannas occur. Owing to the superabundance of rain, and the great number of lakes and stagnant pools,

however, are only sufficient to supply the domestic demand. The turtles of the Rio Amazonas are numerous; and their fat, under the name of *maniteca*, constitutes an important article of trade on the banks of that river. A kind of fish called *manta* abounds on the shores of the Pacific, and when salted is sent to Guayaquil and the mountain-region, where it finds a ready sale. On the same coast a shell-fish occurs, the juice of which is used in dyeing. Pearls were formerly found there, but this fishery has long been discontinued. In the vicinity of the town of Loxa some cochineal is collected. The woods of the western region supply several kinds of timber, of which vessels are built at Guayaquil.

Ecuador has no rich mines. Gold is found in some of the rivers, and silver ore occurs; but neither metal is procured to any amount. Lead ore and quicksilver are found in some places; the latter chiefly at Los Azoges, where it is worked, but the lead is not worked. Salt is prepared in considerable quantities along the coast, especially at Cape Santa Helena, where it constitutes a considerable article of trade, being brought to Guayaquil, and thence transported to the mountains.

4. The population is composed of whites, descendants of the Spaniards, Indians, and Mestizoes. The number of negroes has always been very small in Ecuador. The whites are most numerous in the valleys of the Andes, and in those of the rivers Guayaquil and Dañli; but even there they hardly constitute more than one-fourth of the whole population. In the western region as well as in the mountains, a considerable number of Mestizoes are scattered among the natives. The Indians who live in these two regions are of the race of the Peruvians, and speak the Quichua language. They are agriculturists, and show both industry and good sense in the cultivation of their fields. In the mountain-region they apply themselves also to the weaving of coarse woollen and cotton stuffs. Along the coast many Indian families live by fishing and making salt. The Indians who inhabit the Great Plains gain their subsistence almost exclusively by hunting and fishing in the large branches of the Amazonas: they cultivate only small pieces of ground. A few Spanish monks who had established themselves among them, had induced many of these Indian families to live together, and to embrace Christianity. They had thus begun to make some progress in civilization; but the events which have taken place since 1812 have driven the monks out of the country, and the Indians are dispersed.

According to the census of 1827, the population amounted to about 492,000, not including the wild Indians of the eastern plains; but the census probably fell short of the real population, which is supposed to amount to 550,000. The population is distributed in the three departments in about the following proportions:—

Province	Population 1850	Population 1860	Population 1870
Chimborazo	100,000	100,000	100,000
El Oro	100,000	100,000	100,000
El Guano	100,000	100,000	100,000
Total	300,000	300,000	300,000

The population is greatest in the valleys of the Guano and El Oro, and the next most populous region is the mountain valleys. The southern districts of the western region are not thickly settled, and the southern coast has few inhabitants, especially along the foot of the Andes. The *Cocha* Plains are inhabited by many tribes; each of which, however, contains but of a small number of families.

3. (1.) The department of Ecuador or Chimborazo comprehends more than half of the republic, and is not much inferior to France in extent. It contains four provinces, Pichincha, Chimborazo, Atacama, and Quixos. The province of Pichincha contains the vale of Quito; and the province of Chimborazo that of Hambaco and Alacá. The province of Atacama extends over the lower country west of the Andes, between the Rio Mira and Cape Pasado; and that of Quixos over the plains east of the mountains as far south as the Rio Napo. The first two provinces are comparatively well peopled; but the two latter contain only a few scattered Indian families. The department is drained by the navigable rivers Yapura, Putumayo, and Napo, which fall into the Amazonas; and by the Rio Esmeraldas, Santiago, and Mira, which flow into the Pacific. It exports great quantities of grain, especially wheat; and also cattle, mules, and sheep, and some manufactures. The most important places in the elevated valleys of the Andes are the following, from north to south. Ibarra is at the foot of the volcano of Imbabura, 7572 feet above the sea-level: it has 8000 inhabitants, who manufacture coarse stuffs of cotton and wool. Much wheat is raised in the neighbourhood, and the sugar-cane succeeds well. Otaválo, the most manufacturing town in the republic, is said to contain 20,000 inhabitants, and to produce great quantities of woollen and cotton stuffs. Quito, the capital of the republic and the seat of the government, stands in a valley, which unites two plains of moderate extent, 9543 feet above the sea-level, near the foot of the volcano of Pichincha. Eleven snow-capped mountains are visible from the town. A part of Quito is regularly built, with wide and straight streets, and contains several good buildings, as the palace of the government, formerly that of the viceroy, and that of the archbishop, with the cathedral and the town-hall, all

which buildings surround the Plaza Mayor. It has a university, to the use of which is appropriated the extensive building which was formerly the college of the Jesuits. It contains a population of 50,000 souls, and some manufactures of cotton, silk, and leather: lace and jewellery are made to some extent. In 1797 Quito suffered greatly from an earthquake. Tacunga, near the southern declivity of the Alto de Chisinche, which separates the valley of Quito from that of Hambato and Alausi, has 3000 inhabitants; and in the vicinity there are large ruins of a palace of the Incas. Lactacunga, situated at the foot of the eastern ridge of the Andes, 9524 feet above the sea-level, is built of pumice-stone, and contains 10,000 inhabitants. Hambato, or Ambato, not far from the foot of the Chimborazo, 8859 feet above the sea, is situated in a country which produces much wheat: it has 12,000 inhabitants, who have some trade, as the only frequented road from the mountain-region to the coast of the Pacific, passes through this place to Guayaquil. On this road, farther west, and on a lower declivity of the mountain, is Guaranda, a small but thriving place. Riobamba Nueva stands in the extensive plain of Tapi, a few miles from the ruins of Old Riobamba, which was entirely destroyed by the earthquake of 1797. It is surrounded by the elevated summits of Chimborazo, Cariguairazo, Tunguragua, and Altar, and contains a considerable population. At Tescan, in its vicinity, much sulphur is got, and there are some well preserved remains of the great road of the Incas. Alausi, near the commencement of the ascent over the mountain-pass of Assuay, 7980 feet above the sea, has some trade and woollen manufactures, and 6000 inhabitants.

In the country along the Pacific there are no large towns. The small harbours of Tumaco, Tola, Esmeraldas, Atacames, and Canoa, are only visited by small coasters. The once populous *Missiones* in the eastern plains, as Baeza, Archidonia, and Avila, are now nearly deserted. Santa Rosa de Oas, on the Napo, has still a small population, being the place at which the Rio Napo begins to be navigable.

(B) The department of Guayaquil extends over the southern and more hilly portion of the country between the Andes and the Pacific, and includes the fertile and well-cultivated valleys of the Guayaquil and Dañli. It consists of two provinces, Manabi the northern, and Guayaquil the southern. The commercial products are cacao, tobacco, and cotton. Guayaquil, the capital of the department, is on the right bank of the Rio Guayaquil, forty miles from its mouth; but large vessels can sail up to the town, as the tide at full and change rises twenty-four feet. The town extends about two miles along the river, and is built on marshy ground. It contains about 25,000 inhabitants, and carries on a considerable trade, as it supplies the towns of the mountain-region with wine, brandy, and sugar from Peru and Chile, and with European commodities. These goods are transported by water to Babaheyo or Caracol, where the navigation ends, according to the seasons or state of the

tides, and from thence they are sent by way of Guaranda and Hambato to the elevated valleys. The principal exports of Guayaquil are cacao and tobacco. The neighbourhood abounds in timber-trees, and some vessels are built. The harbours of Morro and Santa Helena are rarely visited. At Santa Helena great quantities of sea-salt are made. On the island of Puna is a village of the same name, where large vessels take in their cargoes when they are prevented from reaching the town by the state of the tide. To this department belong the Galapagos Islands, which lie in the Pacific, about 700 miles from the continent, between $1^{\circ} 40'$ S. lat., and $40'$ N. lat. They consist of six larger and several smaller islands. The surface is composed of lava and other volcanic rocks, and they rise to a great elevation from a deep sea. The largest island is Albemarle, which extends from $1^{\circ} 10'$ S. lat. to $20'$ N. lat., and is above 100 miles long. The highest part is 3840 feet above the sea. On the island of Charles a settlement has been formed. Land-tortoises of great size, sometimes weighing several hundred pounds, abound in these islands.

(C) The department of Assuay comprehends that portion of the mountain-region which is south of the mountain-pass of Assuay, or the Vale of Cuença, the mountain-knot of Loxa, and the hilly country extending eastward to the Pongo de Manseriche, and also a large portion of the eastern plains between the rivers Napo on the north, and the Amazonas on the south. Westward it extends to the south-eastern angle of the Gulf of Guayaquil, but the coast-line is small. It consists of the provinces of Cuença, Loxa, and S. Jaen de Bracamoros. Only the rivers (the Santiago, Marona, Pastaza, Tigre and Napo) which fall into the Amazonas are navigable. The principal commercial product is cinchona bark, which is found in the forests of the mountainous country east of Loxa, at an elevation of from 6000 to 8000 feet. This department contains the only silver mines, but they are not worked to a great extent. The most important places are Cuença, the capital of the department, which stands in a plain 8640 feet above the sea, and contains a population of 20,000; it has a university. At Los Azoques, north-east of Cuença are quicksilver mines. Loxa, with 10,000 inhabitants, carries on an active trade in cinchona-bark: it is 6768 feet above the sea. S. Jaen de Bracamoros, not far from the banks of the Marañon, is a small place, containing about 2000 inhabitants. S. Borja, at the foot of the Pongo de Manseriche, is also a small place. Zaruma, on the western declivity of the Andes, has 6000 inhabitants, and is situated in the centre of the mining district. Tumbez, a small place near the Bay of Guayaquil, has some commerce.

6. The manufactures of Ecuador are more considerable than those of any other country of South America. Considerable quantities of coarse woollen and cotton stuffs are made at several places in the elevated valleys; and though these manufactures have lately diminished, because

inhabitants of the coast prefer English goods, they are still considerable. The manufactures of silk and the tanneries are less important.

Three roads lead from the elevated valleys to the Pacific; one from Quito to Esmeraldas; another from Hambato to Guayaquil, and the most northern from Cuenca to Naranjal, on the Bay of Guayaquil. The second is the most used. By the third, the cinchona-bark and the produce of the mines are sent to Guayaquil. Three routes lead to the eastern provinces, but they are very little used. Formerly the elevated valleys received European goods, principally by way of Cartagena and Popayán, but they are now imported at Guayaquil; from which place also gold, silver, cinchona-bark, tobacco, and some other articles are exported.

Ecuador was annexed to the empire of the Incas before the arrival of the Spaniards. It was discovered by Francis Pizarro in 1526, and soon passed into the hands of the Spaniards, with the other countries that constituted the Peruvian empire. When the revolution broke out in the Spanish colonies of South America, in 1811, Ecuador constituted a part of the vice-royalty of New Granada, from which it soon separated; but in 1823 it adopted the convention of Cúcuta, and from that time to 1831 formed a part of the republic of Columbia. Since the dissolution of the Union, it constitutes an independent republic. According to the constitution of 1830, the executive is a president, chosen for eight years, and assisted by a vice-president and council of state. The legislature consists of two bodies, the senate, to which every province sends a member; and the house of representatives, the number of which varies according to the population, a member being sent for every 40,000 inhabitants.

PERU.

Situation, Extent, Boundaries. 2. Surface and Soil, Mountains and Plains, Rivers and Lakes. 3. Climate and Productions. 4. Population and Inhabitants. 5. Political Divisions and Towns. 6. Manufactures and Commerce. 7. History and Government.

PERU extends from south to north, from the mouth of the River Loa ($1^{\circ} 28' \text{ S. lat.}$) to that of the Tumbes ($3^{\circ} 30' 40'' \text{ S. lat.}$). When measured along a line parallel to the Pacific its length is about 1680 miles. Its width is greatest near $10^{\circ} \text{ S. lat.}$, where it extends from the banks of the Rio Madeira, or from $65^{\circ} \text{ W. long.}$, to the Pacific, near Guarmey, $8^{\circ} 13' \text{ W. long.}$, a distance exceeding 1000 miles.

Peru is separated from Ecuador on the north by the Amazonas, its affluent the Chinchupe, the crest of the Andes, and the Rio de Tumbes.

On the west it is washed by the Pacific; to the south and south-east is Bolivia. The boundary-line between these two republics begins on the Pacific at the mouth of the Loa, whose course it follows for several miles, when it turns eastward, and continues in that direction until it reaches the western edge of the Andes. It then runs along this edge northward to the mountain-pass of Gualillas ($17^{\circ} 50'$ S. lat.), whence it continues to run northward across the plain of the Lake of Titicaca, and, after crossing the lake itself, it reaches the Eastern Chain of the Bolivian Andes. It follows the mountain-range for some distance, and leaves it where a lateral ridge, which includes the vale of the river Tuche, branches off. Running along this lateral ridge to its eastern termination on the banks of the Rio Beni, it crosses this river, and follows the course of the Rio Yacuma to its junction with the Mamoré. The Mamoré, as far as its confluence with the Guaporé, or Itanez, divides the most northern portion of Bolivia from Peru: east of Peru is Brazil. The boundary-line between these two countries extends along the Rio Madeira, which is formed by the confluence of the Mamoré and Guaporé, as far north as $9^{\circ} 30'$ N. lat. Hence it runs westward in a straight line until it meets the course of the Rio Yavari, which river is considered to form the remainder of the boundary-line to its junction with the Amazonas.

2. Peru comprehends the whole country, which extends from the steep western declivity of the Bolivian and Peruvian Andes to the shores of the Pacific. This region is called the *Valles*, as all the cultivable ground is only in the valleys, by which the surface of the country is furrowed. To the east of the Valles, extends the *Montaña*, or mountain-region, which comprehends the whole of the Peruvian, and a small portion of the Bolivian Andes. Along the eastern side of the *Montaña* are plains, the northern portion of which belongs to the Great Plain of the Amazonas, but the southern districts may be considered as constituting the north-western part of the Great Longitudinal Valley. These three natural divisions occupy the surface of Peru in the following proportion, according to a rough estimate,—

	Square Miles.
(A) The Valles, together with the western declivity of the Andes, cover a surface of about	92,600
(B) The <i>Montaña</i> occupies	205,400
(C) The Eastern Plains	187,000
	<hr/> 485,000

The two last-mentioned regions are separated by a line running between the basins of the Huallaga and Ucayali, to the sources of the Rio Pachitea, and extending thence to Santa Ana on the Vilcamayo and to the Nevado de Salcantahi. The snow-covered ridge of the Bolivian Andes then divides the plains from the *Montaña* to the southern bound-

ry of Peru. By this line the greatest part of the Cordillera del Este is included in the plains. This portion of the range has not been visited by Europeans, and it appears to be low, according to information obtained from the native tribes.

The region of the vales contains a very small portion of arable land, the remainder being occupied by sandy or stony wastes. Though the whole region is larger than the Island of Great Britain, the cultivable portion certainly does not exceed the county of York: yet this little is cultivated with great care. The Montaña or mountain region has great varieties of soil. A large portion is rocky, and only covered with scanty grass, but among the numerous valleys which furrow the mountains from south to north, there are several which are very fertile, such as that of the Rio Jauja. The eastern half of this region is covered to its summit with forests and vigorous vegetation, but the western mountains are nearly bare, and frequently without any sign of vegetation. The districts which have a fertile soil, are in a tolerable state of cultivation. The eastern plains are without cultivation, except the small patches on which the independent native tribes grow a few roots and maize: the greater part of them is covered with interminable woods, but in some places the woods alternate with savannas of considerable extent. As far as this region is known from the reports of travellers, it is much superior in fertility to the first two regions.

Most of the small rivers that fall into the Pacific are used for irrigating the vales through which they flow; but none of them are navigable, except the Rio de Piura, near the northern boundary of the republic which may be navigated for several months in the year as far as the town of Piura, a distance of about twenty miles. The Montaña is drained by the Marañon, and its affluents the Huallaga and Ucayali. The Marañon is only navigable where it forms the boundary-line between Ecuador and Peru, from the mouth of the Rio Chuchunga downwards, but as far down as the Pongo de Manseriche it can only be descended, on account of the rapidity of its course. No obstacle to navigation occurs below the Pongo for vessels drawing only seven feet of water, and as far up as the junction of the Ucayali it may be ascended by vessels of any size. In the general description of South America it is stated how far the navigation on the Huallaga and Ucayali extends. The affluents of the last-mentioned river, as far as they run through the Montaña are not navigable, but they become so where they enter the plains.

There is no considerable lake in the Valles, except that of Parinacochas, which has no outlet, and is enclosed by high mountains: it is said to be 10,000 feet above the sea; the water is brackish. In the Montaña there are many lakes, and some of large size. That of Titicaca has been noticed. The lake of Chinhaicocha or Reyes, which receives the largest part of the waters collected on the table-land of Pasco, and from which the Rio Jauja issues, is perhaps thirty miles long, with an average

width of five miles: it contains several islands. The lake of Llauricocha, the source of the Marañon, has not been visited by travellers, and nothing is known of it except its position. It is said that there are many swampy lakes in the eastern plains.

3. The three regions differ greatly in climate and products. The Valles are never refreshed by a drop of rain, though they have heavy dews; but for six months in the year the interior of the Montaña is subject to heavy showers, which occur almost daily, and during the rainy season (from September to March) the plains are drenched by torrents of rain, which frequently continue for several days. The heat in the Valles is much less than might be expected from their geographical position, which is partly attributed to the fogs, called *garua*, and partly to the current of cold water which runs along the coast. This moderate temperature and the absence of moisture render the Valles one of the most healthy regions in the globe. In the Montaña there is great cold on the declivities of the mountains, and excessive heat in the deep valleys, but as the slope is sufficient to carry off the rains, this region also is generally considered healthy. The plains are rendered unhealthy through the combined influence of excessive rain and great heat, which causes the vapours to rise like clouds from the stagnant waters and the pools left by the inundations.

The Valles are nearly without trees; wood is also scarce on the western half of the Montaña, but it becomes abundant as we approach the eastern plains, and it entirely covers the eastern declivities of the mountains. Nearly the whole of the plains is covered with trees. The moderate climate of the Valles is favourable to the growth of European cerealia, as well as maize and rice; and the fruit trees of southern Europe succeed so well, that wine and brandy constitute considerable articles of export. The cane is also cultivated to a great extent, and the produce is exported: in the more elevated districts of the Montaña the cerealia and fruits of Europe are grown, whilst the valleys produce abundant crops of tropical products among which the coca-plant is important as an object of internal commerce. In the forests on the eastern declivity of this region, cinchona bark, copaiva balsam, and copal are collected; wax, yellow and black, is also procured in abundance: indigo grows spontaneously. The Indians of the plains procure from the forests vanilla, sarsaparilla, copaiva, copal, caoutchouc, and several gums and resins, which are sent to the Portuguese settlements on the Amazonas.

Cattle, mules, and horses which are scarce in the Valles, are supplied by the Montaña, which has extensive pasture-grounds on those slopes of the mountains that are nearly without trees. On the most elevated ridges and table-lands, as those of Titicaca and Pasco, llamas are kept as beasts of burden: they carry about 150 lbs., or half the load of a mule. Sheep are only numerous in those districts which are too cold for cattle. The fat of the turtles supplies an article of commerce,

which is called *manteca*. The *Montaña* is rich in minerals: the number of silver mines is very great, but most of them are exhausted or abandoned. Those of Pasco are beyond all doubt the richest mines in South America which are now worked; they formerly produced eight millions of dollars, or 1,800,000*l.*, annually, but the produce has much diminished of late. The mines of Gualgayoc, towards the northern boundary of the republic, are also rich. At Huancabelica there are quicksilver mines, which once were very productive: gold occurs in several rivers: copper, iron, lead and brimstone are also found. Nitrate of soda is collected in the southern districts of the Valles, and constitutes a very important article of trade. Salt is procured at a few places along the Pacific, especially at Point Salinas, north of Callao, and in Sechura Bay towards the northern boundary of the republic. In the low ridge, which constitutes the eastern boundary of the vale of the Rio Huallaga there is rock-salt, which constitutes a considerable article of trade in the interior of the *Montaña*.

4. The population consists of Creoles or other descendants of Spaniards, native Indians, and Mestizoes, and a small number of Mulattoes and Negroes. The Indians of the Valles and *Montaña*, with the exception of the vale of the Rio Huallaga, and a few lower districts on the Mantaro and Tambo, are Peruvians, who had attained a considerable degree of civilization before the arrival of the Spaniards; which is proved by the fact, that they had made a road that traversed the empire of the Incas in its length from Quito to the southern extremity of the vale of the lake of Titicaca, and by the system of irrigation in the low tracts in the vales which they had invented and generally adopted. At present they are the most industrious agriculturists, manufacturers, and fishermen of the republic; and they also carry on the coasting trade in their balsas. They speak one language, the quichua or language of the Incas. The exertions of the Jesuits and other missionaries to convert and civilise the savage tribes which inhabit the eastern declivity of the *Montaña*, have been but partially successful: only those tribes which inhabit the valley of the Rio Huallaga have adopted permanent habitations, and been induced to cultivate the soil. The other tribes that inhabit the plains, continue to lead a rambling life in the woods, with the exception of a small number of families at Sarayacu and a few other places on the Rio Ucayali.

There has been no recent census. According to calculations, founded on a partial census taken before the war of independence, the population amounted to 1,736,928 individuals. It was composed of

240,819 Whites.

998,846 Indians.

383,782 Mestizoes.

69,878 Mulattoes, and

43,628 Slaves.

1,736,953

This population is thus distributed over the surface of the republic, according to a rough estimate :—

Name of Department.	Surface in square miles.	Number of Inhabitants.	Number of Inhabitants on each square mile.
1. Truxillo . . .	107,000	360,000	more than 3
2. Junin . . .	21,000	180,000	nearly 9
3. Lima . . .	23,200	250,000	nearly 11
4. Ayacucho . . .	48,000	230,000	nearly 5
5. Cuzco . . .	46,200	400,000	nearly 9
6. Puno . . .	23,000	120,000	more than 5
7. Arequipa . . .	29,600	200,000	nearly 7
	298,000	1,740,000	

The greatest population is in the valleys, and next to them in the country surrounding Cuzco, the ancient capital of the empire of the Incas, and in the vale of the Rio Jauja.

5. The departments are divided into provinces; the whole number of provinces is fifty-nine.

(A) The department of Truxillo comprehends the northern portion of the republic, and consists of nine provinces, Caxamarca, Chachapóyas, Chita, Maynas, Piura, Ján, Lambayeque, Huamacucho, and Patía, which occupy the vales as far south as Santa (9° S. lat.), and the lower and wider portion of the valleys of the rivers Marañon and Huallaga. The commercial products are rice, sugar, cinchona-bark, sarsaparilla, copaiva balsam, dragon's blood, and bullion: there are many silver mines which are still worked. It does not appear that the Marañon is navigable, but the Rio Huallaga is navigated by boats for at least two-thirds of its course. The most remarkable places in the valleys are Payta, with 5000 inhabitants, a good harbour, and considerable commerce; Piura, with 8000 inhabitants and some manufactures; Lambayeque, with 10,000 inhabitants, has only an open roadstead, but it carries on a considerable trade; Chiclayo, about three miles from Lambayeque, is a thriving place with 8000 inhabitants; Truxillo, the capital of the department, is built in a fertile plain: it contains 9000 inhabitants, and has a considerable trade, though the harbour (Huanchaco) is a bad roadstead. In the Montaña, Caxamarca, in the valley of the Marañon, has about 7000 inhabitants, a palace of the Incas, and some manufactures of woollen cloth and hardware. It stands in a plain 9363 feet above the sea, and in its vicinity there are many mines. The rich mines of Gosh-

gayoc are farther north, near Chóta. Chachapoyas, with 4000 inhabitants, is a commercial place, being on the road which leads from the vale of the Marañon to that of the Huallaga. In the vale of the last-mentioned river are Moyobamba with 5000, and Tarapoto with 4000 inhabitants: in both places coarse cotton stuffs are made.

(B) The department of Junin comprehends the valleys between 9° and 11° S. lat., the table-land of Pasco and the upper vales of the Marañon, Huallaga and Jauja. It consists of nine provinces; Huari, Caxatambo, Huaylas, Conchucos, Pasco, Huamalies, Huanaco, Tarma, and Jauja. Besides the produce of the silver-mines of Pasco and other places, it exports sugar, Indian corn, rice, and cinchona-bark: the cinchona-bark is procured in the province of Huamalies. The rock-salt from the banks of the Huallaga is an important article of inland trade. The largest town is Pasco, or Cerro de Pasco, situated on the table-land which bears its name, at an elevation of 14,278 ft. above the sea, in a climate which resembles a cold English winter all the year round. The site of Pasco and the neighbouring eminences contain silver ore, and the annual produce of the mines is still considerable. The town is meanly built, but contains a population fluctuating between 12,000 and 16,000 souls, according to the state of the mines. North of Pasco, in the upper vale of the Marañon are Huari, with 6000 inhabitants, and Caxatambo, in the vicinity of which silver-mines are worked. In the upper vale of the Rio Huallaga is Huanaco, in a fertile country containing 9000 inhabitants; it furnishes all kinds of provisions to Pasco. In the upper vale of the Rio de Jauja is Tarma, the capital of the department, with 6000 inhabitants and some cotton and woollen manufactures; and Jauja, or Atanjauja, which has 3000 inhabitants, and some silver mines in the neighbourhood.

(C) The department of Lima extends along the coast from 11° to $15^{\circ} 30'$ S. lat., and comprehends the vales included between those limits. The short valleys which intersect the desert are very numerous, and well irrigated and cultivated. The department comprises eight provinces; the Cercado or district of Lima, Chancáy, Canta, Huaura, Huarochiri, Yauyos, Cañete, and Ica. The commercial products are sugar, wine, brandy, and tobacco. At Las Salinas, near Huaura, much salt is made. Lima, the capital of the whole republic, stands in a fine valley, about 6 miles from the sea and 560 ft. above it. The city is traversed by the small river Rimac, and is well built, but the houses are made low on account of the earthquakes. It has some remarkable buildings; as the cathedral, the government palace, and that of the archbishop. It has a university and several colleges. The population amounts to 70,000 souls, of which less than one-half are whites. There are several manufactures on a small scale. It is supplied with foreign goods, and exports the produce of the mines of the interior through Callao. This port is formed by the Island of S. Lorenzo, which is four

miles and a half long, and 1050 ft. high in the highest part. The harbour is safe and spacious. The town of Callao contains 3000 inhabitants, but is badly built. Cerro Azul, in the middle of a fertile plain, is a considerable place, and exports sugar, rum, and treacle. Pisco, with more than 3000 inhabitants, exports wine, brandy, and sugar, and has a spacious and safe harbour.

(D) The department of Ayacucho extends over the western range of the Andes, and the countries contiguous to it on the east; accordingly the vale of the lower Jauja and the whole of the vale of the Rio Apurimac are included in it. The department contains ten provinces, of which five, Huancabelica, Lucánas, Tayacaja, Castroviréyna, and Parinacocha, are situated within the range of the western Andes, and the other five, Guamanga, Guánta, Congallo, Anco, and Andaguailas lie in the mountainous country east of that range. The commercial products are chiefly silver and quicksilver, and the herds of cattle, horses, and mules with which several districts abound, and which supply the vales. Some parts export corn, and sugar is cultivated in some of the lower districts, but not sufficient to supply the demand. The capital, Guamanga, built on the declivity of some mountains of moderate elevation, is a large place, with 26,000 inhabitants. It has a fine cathedral, a university, and a seminary for priests. Being situated on the road from Lima to Cuzco, it has a considerable trade. A few miles east-north-east of Guamanga is the Plain of Ayacucho, where Sucre put an end to the Spanish dominion in South America by a decisive victory. Huancabelica, west of Guamanga, is noted for its mines of gold, silver and quicksilver: the quicksilver mines were formerly very rich. It contains 8000 inhabitants. Castroviréyna is a small place in the centre of a mining district.

(E) The department of Cuzco extends over the south-eastern portion of the Montaña, comprehending all the countries drained by the affluents of the Vilcamayo, and the upper course of the Apurimac. It consists of eleven provinces, the Cercado or District of Cuzco, Quispicanchi, Urubamba, Abancay, Aymaraes, Cotabambas, Chumbivilcas, Paruro, Calca, Paucartambo, and Tinta: nearly nine-tenths of the population are Indians; the mines are not much worked, and the principal objects of trade are the woollen and cotton stuffs, and the leather, which are manufactured by the inhabitants. Cuzco, the capital of the department, is said to have been built by Manco Capac, the founder of the empire of the Incas. It is situated in a wide valley about 11,300 feet above the sea, and contains several ruins of the time of the Incas. The population, consisting of about 40,000 souls, manufacture wool and cotton, and make leather and furniture; the embroideries made here are distinguished for their beauty.

(F) The department of Puno extends over that portion of the elevated vale of Titicaca, which lies within the boundaries of Peru, and contains five provinces, Lampa, Azangaro, Carabaya, Chuquito and Guancani.

Agriculture is limited to the cultivation of quinoa, potatoes, and barley; the barley is cut green for fodder. The articles of commerce consist of the produce of the silver mines, and of the herds of cattle; and it derives some profit from the transport of goods from the port of Arica to Bolivia by the mountain passes over the Altos de Toledo, and that called Las Gualillas. Puno, the capital, has 9000 inhabitants: it is 12,832 feet above the sea-level; Chuquito has 5000 inhabitants: both these towns are near the western shores of the lake of Titicaca. In the vicinity of Puno there are some rich silver mines.

(G) The department of Arequipa comprehends the whole of the Valles between $15^{\circ} 30'$ S. lat. and the mouth of the Rio Loa ($21^{\circ} 28'$ S. lat.), with a very small portion of the Montaña, in which the Rio Apurimac has its source. It consists of seven provinces; Camaná, Condesuyos de Arequipa, the Cercado or district of Arequipa, Moquegua, Arica, Tarapacá, and Cayllóma. The last-mentioned province is in the Montaña, and contains silver mines. Besides the produce of the silver and copper-mines, cotton, wool and sugar are exported. Great quantities of saltpetre are got in the province of Tarapacá, and chiefly shipped to England. Acari, which is built in a fine plain not far from the sea, has 6000 inhabitants; the port, Point Lomas, has good anchorage. Arequipa, in the extensive vale of the Rio Arequipa or Chila, has 30,000 inhabitants, and is a well-built and commercial town. It is 7797 feet above the sea-level. Some miles north-east of it is the volcano de Arequipa, which is 18,300 feet high. Moquegua, in a very fertile and extensive valley, has 10,000 inhabitants. Tacna is about thirty miles from the sea, and 1700 feet above its level. It is a commercial place, being the depôt of European merchandise for the consumption of the Southern Montaña, and the greater part of Bolivia: it contains 9000 inhabitants. Arica, the port of Tacna, has a good harbour, and about 3500 inhabitants. It was almost entirely destroyed by an earthquake in 1833. Iquique, a small place, containing about 1000 inhabitants, exports a great quantity of saltpetre, which is procured in the surrounding desert country.

The plains which lie east of the Montaña are not included in any of the departments, and are inhabited by savage tribes. The missions, which from time to time were established among them, had little success, and were either destroyed or abandoned. At present there are a few missions on the banks of the lower Ucayali; that of Sarayacu contains a population of 2000, which is composed of three or four different tribes.

6. The coarse cotton and woollen stuffs which compose the dress of the Indians, and generally that of the Mestizoes also, are either made by the families themselves, or in the towns of the vales of the Marañon and Jauja, and at Cuzco. The iron utensils made at Caxamarca are highly valued. At Lima, Arequipa, and Cuzco, gold and silver is worked into vessels, utensils, trinkets, and ornaments. None of these articles are exported; but the coarse cotton cloth made in Moyobamba and Tara-

poto is exported in considerable quantities to those parts of Brazil which are adjacent to the banks of the Amazonas: it is called *tucuya*.

The internal trade is much impeded by the want of roads, to the making of which the mountainous nature of the country opposes great obstacles. Since Peru and Brazil have become independent, the eastern districts of Peru have commenced a traffic with the countries adjacent to the banks of the Rio Amazonas. It begins to take the appearance of an active trade in the valley of the Rio Huallaga; and though at present it is limited to cotton, gums, resins, wax, sarsaparilla, and *tucuya*, the rich and fertile soil of that district, and its numerous natural productions, will soon furnish the materials for a very profitable traffic. The maritime commerce is active, particularly with the other republics of America, with Mexico, Central America, Guayaquil, and Chile, to which countries sugar, wine, brandy, salt, and some other articles of minor importance are sent. Except gold and silver, and the saltpetre of Iquique, Arica, and Arequipa, both which are important articles, only a few commodities come to the market of Europe, as chinchilla fur, vicuña and sheep-wool, and cinchona-bark; the last-mentioned article comes partly from Bolivia. The whole exports of Peru may amount to about 2,000,000*l.* annually.

7. When the Spaniards discovered Peru, they found it inhabited by a nation which had made considerable progress in civilization, and was under a well-regulated government. According to tradition, civilization was introduced by Manco Capac, who was believed to be the offspring of the sun, and to whose descendants, called Incas, an implicit obedience was paid. The civilization, and particularly the high degree of cultivation which the country had attained, facilitated the conquest of the country to the Spaniards. They entered Peru under Pizarro in 1526, and a few years afterwards the empire of the Incas was annihilated. The peace of the country was not disturbed until 1780, when the Peruvians under Tupac Amaro made an unsuccessful attempt to expel the Spaniards. In 1820 San Martin, who had previously expelled the Spaniards from Chile, invaded Peru with a considerable army, for the purpose of liberating the country from the yoke of Spain; but his success was only partial, until Bolivar with another army entered Peru from Ecuador in 1822. By the battle of Ayacucho, in December, 1824, the power of Spain in South America was entirely broken. Bolivar was made dictator in 1824, but he resigned the dictatorship in 1826. From that time the country has suffered greatly from internal discord and civil war. This unsettled state of the country induced Santa Cruz, the president of the republic of Bolivia, to dismember Peru, and to add the southern provinces to the republic, of which he was the head: finding very little resistance, he attempted, in 1836, to unite both republics into one; but in 1838 the inhabitants of Peru rose against his government, and peace is not yet re-established in the country.

On the west it is washed by the Pacific; to the south and south-east is Bolivia. The boundary-line between these two republics begins on the Pacific at the mouth of the Loa, whose course it follows for several miles, when it turns eastward, and continues in that direction until it reaches the western edge of the Andes. It then runs along this edge northward to the mountain-pass of Gualillas ($17^{\circ} 50'$ S. lat.), whence it continues to run northward across the plain of the Lake of Titicaca, and, after crossing the lake itself, it reaches the Eastern Chain of the Bolivian Andes. It follows the mountain-range for some distance, and leaves it where a lateral ridge, which includes the vale of the river Tuche, branches off. Running along this lateral ridge to its eastern termination on the banks of the Rio Beni, it crosses this river, and follows the course of the Rio Yacuma to its junction with the Mamoré. The Mamoré, as far as its confluence with the Guaporé, or Itanez, divides the most northern portion of Bolivia from Peru: east of Peru is Brazil. The boundary-line between these two countries extends along the Rio Madeira, which is formed by the confluence of the Mamoré and Guaporé, as far north as $9^{\circ} 30'$ N. lat. Hence it runs westward in a straight line until it meets the course of the Rio Yavari, which river is considered to form the remainder of the boundary-line to its junction with the Amazonas.

2. Peru comprehends the whole country, which extends from the steep western declivity of the Bolivian and Peruvian Andes to the shores of the Pacific. This region is called the *Valles*, as all the cultivable ground is only in the valleys, by which the surface of the country is furrowed. To the east of the Valles, extends the Montaña, or mountain-region, which comprehends the whole of the Peruvian, and a small portion of the Bolivian Andes. Along the eastern side of the Montaña are plains, the northern portion of which belongs to the Great Plain of the Amazonas, but the southern districts may be considered as constituting the north-western part of the Great Longitudinal Valley. These three natural divisions occupy the surface of Peru in the following proportion, according to a rough estimate,—

	Square Miles.
(A) The Valles, together with the western declivity of the Andes, cover a surface of about	92,600
(B) The Montaña occupies	205,400
(C) The Eastern Plains	187,000
	<hr/> 485,000

The two last-mentioned regions are separated by a line running between the basins of the Huallaga and Ucayali, to the sources of the Rio Pachitea, and extending thence to Santa Ana on the Vilcamayo and to the Nevado de Salcantahi. The snow-covered ridge of the Bolivian Andes then divides the plains from the Montaña to the southern bound-

ary of Peru. By this line the greatest part of the Cordillera del Este is included in the plains. This portion of the range has not been visited by Europeans, and it appears to be low, according to information obtained from the native tribes.

The region of the vales contains a very small portion of arable land, the remainder being occupied by sandy or stony wastes. Though the whole region is larger than the Island of Great Britain, the cultivable portion certainly does not exceed the county of York: yet this little is cultivated with great care. The Montaña or mountain region has great varieties of soil. A large portion is rocky, and only covered with scanty grass, but among the numerous valleys which furrow the mountains from south to north, there are several which are very fertile, such as that of the Rio Jauja. The eastern half of this region is covered to its summit with forests and vigorous vegetation, but the western mountains are nearly bare, and frequently without any sign of vegetation. The districts which have a fertile soil, are in a tolerable state of cultivation. The eastern plains are without cultivation, except the small patches on which the independent native tribes grow a few roots and maize: the greater part of them is covered with interminable woods, but in some places the woods alternate with savannas of considerable extent. As far as this region is known from the reports of travellers, it is much superior in fertility to the first two regions.

Most of the small rivers that fall into the Pacific are used for irrigating the vales through which they flow; but none of them are navigable, except the Rio de Piura, near the northern boundary of the republic which may be navigated for several months in the year as far as the town of Piura, a distance of about twenty miles. The Montaña is drained by the Marañon, and its affluents the Huallaga and Ucayali. The Marañon is only navigable where it forms the boundary-line between Ecuador and Peru, from the mouth of the Rio Chuchunga downwards, but as far down as the Pongo de Manseriche it can only be descended, on account of the rapidity of its course. No obstacle to navigation occurs below the Pongo for vessels drawing only seven feet of water, and as far up as the junction of the Ucayali it may be ascended by vessels of any size. In the general description of South America it is stated how far the navigation on the Huallaga and Ucayali extends. The affluents of the last-mentioned river, as far as they run through the Montaña are not navigable, but they become so where they enter the plains.

There is no considerable lake in the Valles, except that of Parinacochas, which has no outlet, and is enclosed by high mountains: it is said to be 10,000 feet above the sea; the water is brackish. In the Montaña there are many lakes, and some of large size. That of Titicaca has been noticed. The lake of Chinhaicocha or Reyes, which receives the largest part of the waters collected on the table-land of Pasco, and from which the Rio Jauja issues, is perhaps thirty miles long, with an average

the waters from the northern declivity of the Sierra de la Cruz, and after their confluence the river is called the Rio Mamoré. Hence the course of the river is north by west, until it has passed 12° S. lat., and is joined from the east by the Guaporé, which descends from the western declivity of the mountains of Brazil. From this point the river is called Madeira. Near $10^{\circ} 30'$ S. lat., it is joined by the Beni. The Beni rises where the Sierra de Santa Cruz branches off from the Andes under the name of Rio Quetoto. It runs north-by-west from $17^{\circ} 40'$ to 13° S. lat., receiving between these limits numerous streams which descend from the Yungas by a north-eastern course. At 13° S. lat. it turns to the north-east, and runs in this direction until it joins the Madeira. The Guapahi and Mamoré, as well as the Beni, are navigable from the places where they leave the mountains. The navigation of the Rio Madeira is, however, interrupted by numerous cataracts, which occur between 9° and 10° S. lat. The cataract of Theotonio is said to be fifty feet high. Farther down the Madeira is free from impediments to navigation, and may be navigated by vessels of any size. The Pilcomayo receives all the waters which descend from the eastern declivity of the Andes between 19° and 23° S. lat. The most northern branch, the Pilcomayo Proper, rises near 19° S. lat., and descends along the valley of Chuquisaca with a south-eastern course, until it meets, within the mountainous country, the other branch called the Pilaya, which draws the greater part of its waters from the Despoblado and the Alturas de Lipez, and runs east by north. After their confluence, the Pilcomayo runs east by south, and soon leaves the mountainous country and enters the Gran Chaco. It does not appear that these rivers are navigated within Bolivia, but the waters are used for irrigation. The lake of Titicaca, situated in the valley between the two ranges of the Andes, is the largest inland lake of South America: it covers more than 4000 square miles, and contains several islands. There are several lakes in the Great Longitudinal Valley, east of the Andes; but their extent has not been ascertained.

3. The natural regions of Bolivia differ greatly in climate and productions. Atacama is sterile from want of moisture, as it never rains in this region, and even the fogs which are common during a part of the year, do not rise high enough to deposit their moisture on the high hills and table-lands. A little maize is cultivated in a few fertile spots. The valley of Titicaca and the plains of Moxos and Chuquitos present a great contrast: both regions have a regular rainy season, which occurs from November to April; but while the rain descends in showers on the valley, it pours down in torrents on the plains. The mean annual temperature of the valley probably does not exceed 45° , whilst that of the plains appears to be 75° . The valley produces only quinoa, potatoes, and onions, but has good pasture. On the plains cacao, coca, indigo, cotton, rice, mandioc, and several tropical fruits are grown, whilst the forests

supply copaiva balsam, sarsaparilla, caoutchouc, vanilla, and canella de clavo, and many other valuable plants and fruits, with excellent timber. The valleys between the mountains and plains have a very moderate climate, and sufficient rain for the growth of the grains and fruits of Europe in the higher, and those of tropical countries in the lower districts. In the forests which cover the eastern declivity of the Andes, cinchona bark is abundant, and it is an article of foreign trade.

The valley of Titicaca as well as the savannas of the plain, supply pasture for cattle, horses, mules, and sheep: even those parts of the mountains which are inaccessible to man are the resort of numerous herds of guanacoës, vicuñas, and llamas; a great number of llamas are also kept as beasts of burden in the valley of Titicaca. Fish is very plentiful in all the rivers which drain the plains. Vicuña and sheep-wool, together with some hides, are articles of export to foreign countries.

The principal commercial wealth of Bolivia consists of the metals. Gold occurs in all the valleys of the Yungas, and is particularly abundant in the Tipuani, an affluent of the Beni, where large pieces of native gold are sometimes found. Gold is also found in a mountain near the coast, but it is not worked, on account of the desert situation. Silver is no less abundant. The famous mines of Potosi have supplied more silver than all the other mines of the world, and they are still worked, though not with great advantage. Other mines occur in the valley of Titicaca, near Oruro, and at Porco, west of Potosi, and in some other places. Copper is found in abundance on the surface, near the southern extremity of the valley of Titicaca, but though the ore is very rich, it cannot be brought to the shores of the Pacific, on account of the expense of transport. Iron and lead occur in several places, but they are not worked. Gold and silver only are exported to foreign countries.

4. The population consists of whites, mestizoes and Indians. The Indians are about three-fourths of the whole population, and they are very numerous in the valley of Titicaca, in the Yungas, and on the plains, where the number of whites and mestizoes is small. The two latter races are much more numerous in the long valleys and on the coast. The native population of the valley of Titicaca consists of Peruvians, who are distinguished by their industry in agriculture, and the rearing of cattle and llamas. They speak the Quichua language. The plains are inhabited by numerous tribes, most of which are comprehended under the names of Moxos and Chiquitos. The Moxos have been civilised by the missionaries, who entered their country about 200 years ago, and they have almost entirely adopted an agricultural life; they cultivate different kinds of plants and roots, and live in fixed dwellings. The Chiquitos seem to have preserved much more of their former roving habits, but our knowledge of them is very imperfect. South of the Chiquitos live two nations, which have never submitted to the whites, and are quite independent, the Chiriguanos and Zamucos.

No census having been taken, the population is unknown. It is variously stated as amounting to between 500,000 and 1,200,000 souls.

5. The nine departments, according to a rough estimate, contain the following number of square miles :

1. Lamar	.	.	.	.	30,000
2. Cinti	.	.	.	.	20,000
3. Tarija	.	.	.	.	12,000
4. Potosi	.	.	.	.	40,000
5. Oruro	.	.	.	.	12,000
6. Chuquisaca	.	.	.	.	24,000
7. Cochabamba	.	.	.	.	18,000
8. La Paz	.	.	.	.	65,000
9. Santa Cruz de la Sierra	.	.	.	.	159,000
					<hr/>
					380,000

(A) The Department of Lamar comprehends the sea-coast, or what was formerly called the province of Atacama. Except several tracts on the banks of the Rio de Loa, the only perennial stream of the country, it contains only a few cultivable patches along the foot of the Andes. Gold and copper occur, but they are not worked : it does not supply any article for commerce. Though it has some tolerable harbours, they are not visited, being uninhabited, with the exception of Cobija or Lamar, the only harbour of Bolivia, which has been declared a sea-port. It contains about 1500 inhabitants, but is a miserable place : provisions and even water must be brought to it from a great distance.

(B) The Department of Cinti consists of the two provinces of Lipex and Cinti, and comprehends the country south of the Alturas de Lipex, and of the contiguous ridge, together with the vale of Cinti or of the Rio Grande. It is watered by the Pilaya and the Rio Grande, an affluent of the Pilaya. Cultivation does not extend beyond the level grounds in the narrow valleys, and the products resemble those of the south of Europe. The most fertile portion is the vale of Cinti, whence considerable quantities of wine and brandy are sent to the more elevated regions. Tupiza is not far from the snow-capped Nevado de Chorolque on the road leading from Buenos Ayres to Potosi ; it has about 5000 inhabitants, and there are some silver-mines in the neighbourhood. Cinti, in the vale which bears its name, has 2000 inhabitants and a considerable trade in wine and brandy.

(C) The Department of Tarija lies to the east of Cinti, and comprehends the country west of that which is inhabited by the Chiriguanoes Indies ; and is drained by the Rio de Tarija, an affluent of the Vermejo, and its tributaries. It chiefly consists of high mountains, and fertile valleys, which produce most of the tropical plants and fruits. The capital Tarija is a small but well-built place, with about 2000 inhabitants.

(D) The Department of Potosí comprehends the mountainous country north of the Alturas de Lipez, together with the mountain-knot of Porco, and the Eastern Bolivian Andes, as far north as the sources of the Condorillo: it consists of the provinces of Chichas, Porco, and Cananta. Nearly the whole surface is occupied by mountains rising above the line of vegetation, though only a few summits attain the snow-line. It contains the richest silver-mines of Bolivia, and many of them are still worked. Potosí the capital, is built on the declivity of the famous Cerro de Potosí, from which such immense quantities of silver have been extracted. The town is nearly 13,000 feet above the sea-level, and has about 30,000 inhabitants. When the produce of the mines was greatest, about 250 years ago, it is said to have had 100,000 inhabitants. The streets are narrow and steep, but the houses are substantial. The country, to a considerable distance from the town, is without vegetation. The mines are higher than the town, and about 15,000 feet above the sea-level.

(E) The Department of Oruro lies chiefly in the valley of Titicaca, of which it comprehends the southern portion, together with the Western Bolivian Andes, as far as they belong to Bolivia. It consists of the provinces of Oruro, Paria, and Carangas. No sort of grain is cultivated, except quinoa, but it has some good pastures. There are several rich silver mines, and an immense quantity of copper, which cannot be turned to account, because the country is destitute of wood, and the transport of the ore to other places is too expensive. Oruro, the capital, is situated in the valley of Titicaca, about 12,000 feet above the sea-level, and contains about 6000 inhabitants, who are mostly engaged in working the silver-mines in the neighbourhood.

(F) The Department of Chuquisaca extends over the southern part of the longer valleys south of the Sierra de la Santa Cruz: it contains the vale of the Rio Pilcomayo, and the eastern portion of that of the Rio Guapahí: it consists of the provinces of Yamparáes and Tomina. The valleys are wide and very fertile, and in the more elevated districts well cultivated; but less so where they sink lower down and approach the eastern plains. The mountains on the west contain some silver mines of comparatively small value. The capital is Chuquisaca, formerly called Charcas or La Plata, the seat of the general government of Bolivia, which is built in a delightful valley, about 9000 feet above the sea-level, and contains a fine cathedral and several good buildings. It has about 25,000 inhabitants, and several institutions for education, among which are a university and a mining school. Two roads lead from this town to the valley of Titicaca, that of Levichuco to Oruro, and that of Tolopalca to La Paz; the latter is in its highest part 14,375 feet above the sea-level.

(G) The Department of Cochabamba comprehends only the upper part of the valley of the river Guapahí, and the mountains contiguous to it on the north. It consists of the provinces of Sacába, Tapacarí, Arque,

Palca, Clissa, and Mizque, and contains the best cultivated and most populous districts of the republic. All the grains and fruits of Southern Europe succeed to perfection: the agricultural products are sent partly to the valley of Titicaca, and partly to other departments. The silver mines are not valuable; some gold is collected in the rivers which run northward. Cochabamba, from which the name of the department is derived, is in a valley on the banks of a small river. Oropesa, the present capital, has 16,000 inhabitants, and considerable manufactures of cotton and glass.

(H) The Department of La Paz extends over the central parts of the valley of Titicaca, and it also comprehends the eastern range of the Bolivian Andes, together with the Yungas or short valleys, and the plain as far east as the Rio Beni. It consists of six provinces, Pacajes, Sicasica, Omasuyos, Larecacha, Chulumani, and Apolobamba. This department supplies the two most important articles of export from Bolivia, gold and cinchona-bark. The former is collected in the numerous small rivers of the Yungas, especially the Tipuani, and the latter in the forests with which the eastern declivity of the Andes is clothed. La Paz, the capital of the department, stands in a narrow valley, many hundred feet below the surface of the valley of Titicaca, on the banks of the Rio Chuqueapo. It contains about 20,000 inhabitants, and is the most commercial town of the republic. A road over the pass of Gualillas (14,200 feet above the sea) leads from La Paz to the coast of Peru, and another over that of Pacuani (15226 feet high) to Cochabamba and Oropesa. By these two roads European commodities are brought to the countries east of the Andes, and gold and bark are exported by the same route. Apolobamba, in the eastern plains, is a small place.

(I) The department of Santa Cruz de la Sierra comprehends nearly the whole of the eastern plains; it consists of the provinces of Valle Grande, Pampas and Baures, to which are added the countries of the Moxos, Chiquitos and Chiriguano. It is only near the declivities of the Sierra de la Cruz and along the banks of the Guapahi that there are settlements of the whites: the remainder of the country is in possession of the native tribes, who are generally agriculturists, and make very fine cotton stuffs. The fertility of the country is very great, but nothing is exported. The capital, San Lorenzo de la Frontera, on the banks of the Guapahi, is not far from the old town of Santa Cruz de la Sierra: it has about 4000 inhabitants, among whom are about 1500 whites.

6. The great difficulty of carrying commodities even of moderate weight over the Andes, by which the populous districts of Bolivia are separated from the Pacific, has obliged the inhabitants to supply their wants by their own industry. Cottons and woollens are made in some of the larger places, and in many parts of the country tanneries are numerous. There are also some glass-houses and manufactories of hats.

The commerce of Bolivia is still principally carried on through Tacna and Arica in Peru, though the government favours the port of Cobija. The value of the imports is supposed to amount to between 1,000,000 dollars (225,000*l.*) and 1,500,000 dollars (337,500*l.*), of which about one-half consists of articles from Peru, especially sugar, wine, and brandy. The imports from Europe and Asia do not exceed 600,000 dollars (135,000*l.*), and consist mostly of cutlery and metals. The most considerable articles of export are gold, silver, cinchona bark, and the wool of sheep and vicuñas.

7. The remains of colossal monuments which still exist on the plain of Tiaguanaco, north of Oruro in the valley of Titicaca, show that civilization had made some progress in this country long before the arrival of the Spaniards. The mountainous portion of Bolivia was subject to the Incas: it fell with the rest of their empire under the dominion of Spain before the middle of the sixteenth century. It remained united to the viceroyalty of Peru up to 1778, when, on the erection of the viceroyalty of Buenos Ayres, the provinces which now constitute the republic of Bolivia were added to the last-mentioned political division of the Spanish colonies. In 1780 the country suffered much from the unsuccessful attempt of the Peruvians under the Inca Tupac Amaro to overturn the Spanish government. The Spaniards remained in almost undisturbed possession of this part of America after they had been expelled from all their other American colonies, and they only left it after the battle of Ayacucho (Dec. 1824). In 1825 Buenos Ayres renounced its claim on Upper Peru, as Bolivia was at that time, and still is sometimes called; and it was then erected into an independent republic, under the name of Bolivia, in honour of Simon Bolivar, the liberator. At the same time the Bolivian code was adopted, by which the executive power was vested in a president chosen for life, and the legislature was to consist of three bodies: a senate, tribunes, and censors. But this constitution was abolished in the following year, and after having undergone several changes, it seems that the constitution is now similar to that of Peru, but the president Santa Cruz has almost absolute power.

CHILE.

1. *Situation, Extent, Boundaries.* 2. *Surface and Soil, Mountains and Plains, Rivers and Lakes.* 3. *Climate and Productions.* 4. *Inhabitants and Population.* 5. *Political Divisions and Towns.* 6. *Manufactures and Commerce.* 7. *History and Constitution.*

1. On the continent of South America Chile extends from 25° to 41° 50' S. lat., but the island of Chiloe, which also forms a part of this

republic, and is separated from it by the straits of Chacao, extends to $43^{\circ} 30'$ S. lat. It lies between 69° and 72° W. long. The extent from south to north is about 1170 miles: the width varies between 100 and 200 miles.

On the east are the republics of Catamarca, Rioja, San Juan de la Frontera, and Mendoza, which are comprehended under the name of the provinces of La Plata, and Patagonia: the boundary-line in these parts passes along the highest part of the Andes, which divides the waters that run east into the Atlantic and west into the Pacific. Chile is divided from Bolivia, which lies north of it, by a desert: the boundary-line terminates on the coast of the Pacific near the village of Paposa, 25° S. lat. On the west it is washed by the Pacific. On the south of Chile is the Strait of Chacao, and the Gulf of Ancud, which divide the island of Chiloe from the continent; the Gulf forms at its north-eastern extremity a bay, called the Reloncavi Sound.

2. The Andes, the highest part of which constitutes the eastern boundary-line of Chile, together with the high mountain masses which form the western declivity of the Andes, cover a considerable part of the surface of Chile, a space perhaps not less than 30 miles in average width. The country between the range of the Andes and the Pacific is different in the southern and in the northern districts. North of 33° S. lat., or north of the Cuesta de Chacabuco, there are valleys between lofty ridges similar to the valleys in Peru; but south of that line there are extensive plains, and but few ridges of hills, except along the coast, where the hills are nearly continuous. Thus Chile is naturally divided into three regions:—

	Square Miles.
A. The Andes occupy about	35,000
B. The valleys, together with the ridges which separate them from one another, about	40,500
C. The plains, including the hilly country along the Pacific, about	94,500
	<hr/> 170,000

The western declivity of the Andes is extremely steep, and it contains no valleys: it is only furrowed by ravines, through which the rivers descend with great rapidity, and form numerous cataracts. There are few patches of level cultivated ground except where the ravines open on the plains. South of 35° S. lat. the lower declivities are covered with trees, but farther north they are generally bare and consist of hard rock, which however in the more level places is covered with a thin layer of earth, and supplies pasture for several months of the year. There are several silver mines, but few of them are worked to any extent. In the region of the valleys the high hills occupy probably seven-tenths of the surface. They are generally covered with sand, or

consist of bare rocks, without any vegetation, except several kinds of cactus, and some patches of coarse grass which appear immediately after a fall of rain. The valleys are of moderate width: only the level tracts along the rivers which can be irrigated, are capable of cultivation. The crops of Indian corn are rather scanty and not sufficient to maintain the population, who derive their subsistence from the produce of the rich silver and copper mines, and partly also from the extensive orchards, which are very numerous in the upper part of the valleys, and noted for excellent fruits. The plains are the richest part of Chile. Some of them are savannas, and contain rich pastures: others are fit for cultivation, and others are sandy. They may be considered as the granary of the countries of South America on the Pacific, which are also supplied from Chile with jerked beef and hides. The hilly tract which divides the plains from the sea is covered with trees of stunted growth, but it produces excellent fruits, and nearly all those which are common to the southern countries of Europe, especially grapes.

The rivers of Chile, north of 34° , contain little water and are not navigable, but they are extensively used for irrigating the adjacent tracts. South of 34° the rivers are much deeper, but are not used for irrigation, as the rains are sufficient. The river Maule may be entered by vessels which do not draw more than 7 feet of water, and it is navigable for river barges for more than 20 miles. The Biobio, the largest of the rivers of Chile, runs nearly 200 miles; at its mouth it is two miles wide, but too shallow for large vessels. It is navigable for small river barges to Nacimientto, nearly 100 miles from its mouth. The river Callacalla is the deepest of the rivers of Chile: large vessels enter its mouth, but it is not known how far it is navigable. There are no large lakes in the valleys and plains, but there are some alpine lakes of considerable extent in the Andes; one near the volcano of Antuco is said to be above 15 miles in length.

3. As Chile extends over sixteen degrees of latitude, the mean annual temperature varies considerably, and this difference is made still greater by the state of the atmosphere. The valleys suffer from want of water; in that of Copiapò several years pass without a drop of rain. Those which lie farther south have only a few showers for three or four successive years, and then a very rainy season. But even in the most southern valley, that of Aconcagua, the average number of rainy days does not exceed fourteen, and there are never more than twenty. Farther south the rains are more frequent, and south of the river Maypù quite sufficient for the cultivation of grain, without irrigation. As far south as the river Biobio, the rains fall regularly in winter, and the sky is cloudless during seven months of the year: but south of that river the rains are irregular, and so abundant that the corn is sometimes carried into the houses to be ripened, and no fruits succeed except apples and strawberries. The wet countries are covered with lofty forest trees, many

of which produce excellent timber, whilst those which have little rain have only a few shrubs and stunted trees, or are overgrown with cactus.

The vegetable productions are those of Southern Europe. Maize is only cultivated in the northern districts, but wheat and barley are largely grown in the southern. Wheat and flour constitute two of the most important articles of exportation. The fruits of Southern Europe are abundantly grown in the valleys, and as far south as the river Biobio: in the valleys they are of excellent quality, and are exported to a large amount. The wine, made in several places, is good, but none is exported. Timber, however, is sent to other countries from the districts south of the Biobio. Potatoes, leguminous vegetables, and melons are grown for consumption; but melons only in the northern districts.

As the southern provinces abound in pasture, cattle are numerous, and jerked beef as well as tallow, hides, and live stock are exported. In the northern districts guanaco and llamas are abundant, but the llamas are not much used as beasts of burden.

Metals are abundant. There is gold in the sand of many of the rivers, and it was formerly collected, but this branch of industry is now nearly abandoned. There are silver mines in some places in the Andes, south of 33°, and north of that parallel they are much more numerous, especially in the lofty ridges, which separate the valleys. The richest of these mines occur in the desert region which separates the valleys of Copiapó and Huasco, where they are worked to a considerable extent, though situated in a country nearly destitute of vegetation and water. The annual produce of these mines in 1832 was about 120,000 marcs,* but it appears to have increased considerably since that time. The same region abounds also in copper ore, which is got in many places, but owing to the want of fuel is sent to England (Swansea in Wales) to be smelted; lead and iron are also found, but they are not worked. In the country which skirts the northern banks of the river Biobio there are extensive coal beds, which, however, are not regularly worked. Salt is only collected from a lake, and as the produce falls short of the consumption, it is imported partly from Peru by sea, and partly by the native tribes who inhabit the plains of Patagonia, where it is collected in the numerous salt lakes of that country.

4. The population of Chile consists of whites and Indians, who generally inhabit different parts of the country. All the inhabitants, north of the river Biobio, are whites, with hardly any mixture of Indian blood; the Indians are almost in exclusive possession of the country south of the Biobio. A wandering tribe, the Pehuenches, inhabits the Andes south of 34° S. lat. The Indians south of the Biobio are known under the name of Araucanians. They have preserved their independence in spite of the numerous attempts of the Spaniards to subdue them. They have made some progress in civilization, and they derive their subsist-

* A marc = 8 oz. Spanish, or 7 oz. 3 dwts. 14 gra. Troy.

ance chiefly from Indian corn, potatoes, beans, and some other articles; and from their large herds of horses and cattle. During the war of independence they frequently laid waste the country north of the river Biobio, but about ten years since a successful war was carried on against them, which was followed by a general pacification.

No census has been taken in Chile. Ten years ago the population, according to an estimate, amounted to about 1,200,000 souls, but since that time it has considerably increased: the population of the northern districts has probably doubled, in consequence of the numerous silver and copper mines which have been opened, and have proved very productive. Since the peace with the Araucanians, the southern provinces, which had been nearly depopulated by their frequent incursions, have been covered with corn-fields, the demand for flour and wheat being great and continual. The present population probably exceeds 1,500,000 souls, not including the Araucanians, whose numbers are not known.

5. The eight provinces of Chile occupy the following number of square miles, according to an estimate:—

A. Coquimbo	. . . . .	48,000
B. Aconcagua	. . . . .	14,000
C. Santiago	. . . . .	12,000
D. Colchagua	. . . . .	15,000
E. Maule	. . . . .	12,000
F. Concepcion	. . . . .	18,000
G. Valdivia	. . . . .	40,000
H. Chiloe	. . . . .	11,000

170,000

(A.) The Province of Coquimbo extends from the boundary-line of Bolivia to the river Chuapa (near 31° 30' S. lat.) over the greater part of the Valles, comprehending the larger valleys of the rivers Copiapò, Huasco, Coquimbo, and Limari, with several smaller ones. It consists of the former provinces of Copiapò and Coquimbo. It does not produce grain enough for its consumption, particularly in the northern valleys; but it exports large quantities of fruit, especially figs and grapes. There are numerous mines of silver and copper, the produce of which is chiefly exported to other countries; some part is also sent to the other provinces of Chile, as a return for provisions which are imported. The richest silver-mines are near Chanuncillo, south-east of Copiapò, which were discovered in 1832. Copiapò, in the valley of the same name, about 45 miles from the sea, has nearly 3000 inhabitants. The port is bad, as the swell rolls in heavily, and the landing is very difficult; but much copper, and copper-ore, with silver, are shipped, and the adjoining village has probably about 1000 inhabitants. Ballenar, in the valley of the river Huasco, about 45 miles from the sea, has only lately grown up: it owes its prosperity to some silver-mines in the neighbourhood. It contains about 7000 inhabit-

ants, and takes its name from Ballenagh in Ireland, the birth-place of the family of O'Higgins, some members of which have been presidents and directors of Chile. La Serena, or Coquimbo, the capital of the province, is situated in the valley of the same name, about seven miles from the sea; it contains nearly 8000 inhabitants, and exports silver and copper-ore: the harbour, which is at the mouth of the river, is one of the best on this coast. Illapel, with about 1500 inhabitants, is in a country that abounds in copper-ore.

(B.) The Province of Aconcagua comprehends the southern portion of the Valles, including the Andes to the east of it. The valleys of Chuapa, Quilimari, Ligua, and Aconcagua are wide and fertile, especially the last. This province is composed of the former provinces of Quillota and Aconcagua. Its commercial wealth consists in its agricultural productions, especially wheat and cattle. It has also some mines of silver and copper, but with the exception of those of Petorca, they are not rich. A fertile and well-cultivated plain, which is an expansion of the valley of Aconcagua, and about 2500 feet above the sea level, contains the towns of San Felipe and Santa Rosa de Aconcagua, each of which has from 5000 to 6000 inhabitants; in the lower valley of the river Aconcagua, the town of Quillota, about 20 miles from the sea, has 8000 inhabitants, and is surrounded by extensive orchards.

(C.) The Province of Santiago comprehends that part of the plains which begins on the north, at the foot of the Cuesta de Chacabuco, and extends from that ridge to the Rio Maypù. It is composed of the provinces of Santiago and Melipilli, and contains a few silver-mines in the Andes adjacent to the plain, but the produce is small. The products are wheat and cattle. Santiago, the capital of the republic, and the seat of the general government, is situated on the small river Mapocho, an affluent of the Maypù, 1691 feet above the sea-level; it is regularly built with straight and wide streets, and contains a fine square, in which are the government residence, the cathedral, the mint, and the custom-house. The population is about 40,000 souls; and there is a university. A road leads from Santiago to Valparaiso, the most important harbour of Chile, which is formed by a spacious bay, but is exposed to gales from the north-west, which prevail in the winter. The town is thriving, and contains about 15,000 inhabitants. It extends along a narrow beach, hardly more than 200 feet wide, and backed by high and sterile mountains. Many houses are built in the ravines of the hills. Wood and water are very scarce.

(D.) The Province of Colchagua comprehends that portion of the plain which extends between the rivers Maypù and Maule from the Andes to the Pacific, and consists of the former provinces of Rancagua and Colchagua. The plains are very fertile and produce much wheat; the cattle are very numerous. The hilly tract along the coast is wooded, and on the banks of the river Maule there are timber-trees. There are

a few mines, but they are not rich. Rancagua and San Fernando are towns of moderate size, and Villa de Curiaço is the capital. These towns are not far from the base of the Andes. At the mouth of the river Maule is a small harbour called La Constitución.

(E.) The Province of Maule, which extends from the river Maule to the river Itata, is probably the most fertile part of Chile. It is not so level as the other parts of the plains, the surface being undulating, and in many parts even hilly: the level tracts are not extensive. It produces every kind of European grain, but the rearing of cattle is still the principal object of the agriculturist. Wine and tobacco are exported to the other provinces. The countries along the Maule river contain extensive forests and good timber, which is used in the harbour of Constitución for boat-building. Copper occurs in some places, but it is not much worked. It consists of the former provinces of Maule and Chillan. Talca and Chillan are small towns.

(F.) The Province of Concepcion comprehends the country between the rivers Itata and Biobio. It consists of the former provinces of Itata, Rere, and Puchacal, and contains the most extensive plains in Chile. The *travesía* of Yumbel is sixty miles long and nearly as wide, and almost a desert. The Isla de la Laja is about the same size, but it is covered with grass and of considerable fertility. The forests on the hilly tract, which separates the plains from the Pacific, consist only of small trees, which are not adapted for ship-building, but the soil and climate are favourable to the growth of fruit-trees. Some wine is exported. Coal is abundant, but it is not of the best quality. Corn and hides are sent to other parts. Concepcion, about two miles from the bank of the Biobio, and six miles from its mouth, once the capital of Chile, has been repeatedly destroyed by earthquakes and the invasion of the Araucanians; since its destruction by the great earthquake of 1835, it is little more than a heap of ruins. Its harbour, Talcahuano, which is about ten miles distant to the north, is formed by a spacious and safe bay. The town, which stands on its southern shores, was likewise destroyed in 1835. On the banks of the upper course of the Rio Biobio, and in the Isla de la Laja, there are several small fortresses, erected to protect the country against the incursions of the Araucanians.

(G.) The Province of Valdivia is also called Araucania, as the greater part of it is still in possession of the Araucanians. It extends from the river Biobio southward to the river Osorno, the country south of the last-mentioned river forming a part of the Province of Chiloe. Agricultural settlements of whites occur only in the parts adjacent to the banks of the Biobio, where several small fortresses have been erected, and in the vicinity of the town of Valdivia. The remainder is occupied by the native tribes. Timber and cattle are exported. Valdivia, the capital of the province, has an excellent harbour, is well fortified, and contains about 2000 inhabitants.

the northern districts, and of the guanacoos, and caviass, armadillos, and emus, which abound in the more fertile tracts. There are also pumas and wolves, and along the coast of the Atlantic seals and sea-lions. Fish is very abundant in the inlets of the western coast: salt-lakes are found in several places along the eastern shores.

2. The plains on the continent as well as on King Charles's Southland are inhabited by the Patagonians, a race of men distinguished by their size, though modern travellers have not found them to be such giants as they were described by some older voyagers; their average height seems to be about six feet or somewhat more. They lead a nomadic life, and travel with great speed from one extremity of the country to the other. They are divided into four tribes: the Chulian, living near the Andes; the Moluche, who occupy the interior; and the Pehuelche, who live in the tract along the coast. The Tehuelhet inhabit the plains adjacent to the Straits of Magalhaens.

The mountain-region is inhabited by the Fuegians, as they are called from the island of Tierra del Fuego. They are of a short stature, varying in height from four feet ten inches to five feet six inches. They live by fishing in the numerous inlets by which their country is intersected, and pass nearly the whole of their lives in their canoes. In some features they resemble the Mongol race. Their language is entirely different from that of the Patagonians.

Patagonia was discovered by Fernando Magalhaens, in 1519. The Spaniards twice made an attempt to form a settlement. In 1572 they sent a colony to Port Famine on the Straits of Magalhaens, north-east of Cape Froward, which was abandoned in 1586. In 1780 a settlement was made at Port San Julian, and abandoned three years afterwards.

ARGENTINE REPUBLIC.

1. *Situation, Extent, Boundaries, Political Divisions.* 2. *Buenos Ayres and the Territory of the Southern Indians.* 3. *The Eastern Republics, Uruguay, Entre Rios, Corrientes, Misiones, Paraguay.* 4. *The Southern Republics, Santa Fé, Cordova, San Luis de la Punta, Mendoza, and San Juan de la Frontera.* 5. *The Northern Republics, Rioja, Catamarca, Santiago del Estero, Tucuman, and Salta.* 6. *Population, Manufactures, and Commerce.* 7. *History and Government.*

1. The republics which are sometimes called the Argentine Republic, but more commonly La Plata, (or the Provinces of La Plata,) from the wide æstuary of that name, lie between 21° and 41° S. lat. and 53° 30'

and 72° W. long. Along 66° W. long. they extend from south to north 1120 miles, and in the parallel of 34° S. lat. 880 miles from east to west. On the south the river Cusu Leubu constitutes the boundary line between them and Patagonia. On the east they are bounded by the Atlantic Ocean from the mouth of the Cusu Leubu (41° S. lat.) to 32° S. lat. Farther north the Argentine Republic borders on Brazil, which extends also along the northern line as far west as the river Paraguay, (58° W. long.) and west of that river is followed by the Republic of Bolivia. The principal chain of the Andes runs along the western border, separating the Argentine Republic from the department of Atacama, which belongs to Bolivia, and from Chile.

When these countries became independent of Spain in 1810, they formed a union, similar to that of the United States of North America; but in a few years the provincial governments neglected to send deputies to the congress, and from that time they have constituted independent republics, having no political connection except what arises from their proximity to one another.

2. The most important of these Republics is that of *Buenos Ayres*, which extends along the Atlantic Ocean from Bahia Blanca (White Bay) on the south, 39° S. lat. to the mouth of the Rio de la Plata; it also occupies the southern shores of that estuary, and continues along the southern banks of the Paraná as far as the Arroyo del Medio, a small river which separates it from the republic of Santa Fé. The western boundary of this republic begins on the south in the Bahia Blanca, at the mouth of the small river Neposta, whence it runs in a north-north-east direction to the western extremity of the Sierra del Vuulcan, where the fortress of Laguna Blanca stands, (near $36^{\circ} 30'$ S. lat., and 61° W. long.) Hence it continues due north to the fortress of Cruz de Guerra ($35^{\circ} 30'$ S. lat.) and from that place to the fortress of Melinqué ($33^{\circ} 42'$ S. lat.) This line divides Buenos Ayres from the territory of the southern Indians. A line drawn from Melinque eastward to the Arroyo del Medio, constitutes the boundary-line between the republics of Buenos Ayres and Santa Fé. The country enclosed by these lines occupies about 75,000 square miles, or about 12,000 square miles less than the area of Great Britain.

The northern part, which is about two-thirds of the whole, is a portion of the Eastern Pampas; the surface of the country is nearly a dead level, only diversified by slight depressions and small elevations. This country contains a very large proportion of cultivable land, and nearly the whole furnishes good pasture, with the exception of a tract of country south of the Rio Salado, which is very low, and covered with swamps or lakes. The most southern portion, about a third of the whole, comprehends the whole of the Sierra del Vuulcan and the south-eastern extremity of that of Ventana. The plain, which divides both ranges, appears likewise to contain a considerable proportion of arable land, but no part of it is under

cultivation. The climate of the northern portion resembles that of Southern Italy: ice hardly ever occurs thicker than a crown-piece, while in summer the thermometer rises to 90°. The north winds, which prevail, have a still greater effect on the health of the inhabitants than the sirocco at Naples, or the solano in Spain. They produce a great relaxation of the muscles, and great mental irritability: the south-western winds, or pamperos, are terrible gales, sometimes accompanied by thunder and lightning; but they purify the air. In the southern districts the climate is as severe as in 50° N. lat. in Europe, but it is healthy. Both regions have sufficient rain for the support of a vigorous vegetation: the rains are most abundant before the setting in of the cold weather in April and May.

The commercial wealth of Buenos Ayres consists in cattle and agricultural products. The number of black cattle that pasture on the pampas is stated to exceed one million. Hides, hair, and horns are exported, and also tallow, and jerked beef. The hides weigh from 50 to 60 pounds on an average. Horses are also very numerous, and, as well as mules and asses, are exported. Of late the breed of sheep has been much improved, and wool now constitutes an important article of export. The cultivation of the ground was formerly so much neglected, that corn and flour were imported, but wheat is now exported to some amount.

Buenos Ayres, the capital of the republic, is on the south shores of the La Plata, nearly opposite the mouth of the river Uruguay, on level ground, and several feet above the water. Vessels of moderate size may sail up the river as far as the town, but they cannot approach it on account of some extensive shoals which intervene between the shores and the deep water. The city is regularly laid out, consisting of straight streets intersecting each other at right angles. Nearly all the streets are now paved with granite. The houses are mostly low, few of them having more than one story, and accordingly the town covers at least twice the surface which would be required for any European city of the same population. The only public buildings which have any architectural pretensions are the churches; but most of them are unfinished. The town is badly provided with water: that which is got from wells is brackish, and most of the wealthy inhabitants have tanks, in which the rain-water is collected from the flat roofs of the houses. The water of the river is good, but there are no means of bringing it to the town. Water-carriers retail it to the lower classes. The population is composed almost entirely of whites; the number of mulattoes being small, and that of the negroes still smaller. It amounts to about 80,000 souls; and chiefly consists of landed proprietors and merchants. No kind of manufacture is carried on. Buenos Ayres is the seat of government, has a university, an observatory, a public library, and some scientific establishments. There is a Protestant church for the English, and a Presbyterian chapel for the Scotch. The commerce of this town is con-

siderable, as it is the principal place whence the productions of the Provinces of La Plata are sent to foreign markets, and through which they are provided with foreign goods.

The population of the whole Republic probably does not much exceed 200,000. The great disproportion between the population of the capital and the country is easily explained, when it is observed that ninety-nine hundredths of the whole country are only used as pasture-grounds. Since more attention has been paid to cultivation, this disproportion has decreased, and still continues to decrease. The executive power is vested in the Governor, or Captain-General, as he is styled, who is elected for five years. He is aided by a council of ministers, appointed by himself, but responsible to the Junta, or Legislative Assembly, of the republic by whom he is elected. The Junta itself consists of 44 deputies, one-half of whom are annually renewed by popular election.

A chain of mud fortresses is established along the western boundary-line of Buenos Ayres from the Bahía Blanca to Fort Melinqué, to keep in check the Indians who inhabit the country west of the republic to the foot of the Andes, and frequently extend their predatory incursions to the settlements of the whites north of 35° S. lat. The Indian country is very little known, but it appears to have a greater variety of surface and soil than the Pampas. The Andes do not rise abruptly from the plains, but are separated from them by a hilly tract, about 100 miles wide. In the centre of the plains there is an extensive hilly tract, especially between 63° and 65° W. long., which is covered with forests. On the eastern declivity of the Andes, and in the hilly region, there are many traces of volcanic action. Sulphur is very abundant there, and coal is stated to exist on the banks of the Neuguen River. Near its sources there are beds of rock-salt, and the plains adjacent on the west are strongly impregnated with salt in many places, which covers the ground like a crust. The Indians who inhabit these countries are of Araucanian origin, and divided into two tribes. The Pehuenches live between the Andes and the river Chadi Leubu; and the Ranqueles, or Thistle Indians, west of the last-mentioned river. The latter tribe frequently lay waste the settlements of the whites along the western and northern boundary-line of their country, when the thistles, which protect the whites during three-fourths of the year, have decayed to the root. Both tribes live on the flesh of mares and colts, which they prefer to any other. They wander about with their horses and cattle, and sometimes obtain a little maize or wheat from the Spaniards, in exchange for salt and cattle, and blankets which are manufactured by their women. They are divided into a great number of smaller tribes, or rather families, the chiefs of which have little authority, except in time of war.

The Spaniards have founded a town within the territories of these Indians, called El Carmen, or Patagones. It is built on the northern

banks of the river Cusu Leubu, about 18 miles from its mouth, and has a population of about 2000 souls, of whom 500 are negroes. The banks of the river towards the sea are cultivated, and produce fine corn. There are also gardens, in which apples, figs, walnuts, cherries, quinces, peaches, grapes, and vegetables are cultivated with success. The inhabitants of El Carmen traffic with the Indians, and send to Buenos Ayres hides, peltry, seal and sea-elephants' oil and skins, and salt. The salt is obtained from some salt-lakes west of the town: it is, however, of inferior quality. The imports of Carmen chiefly consist of manufactured articles, sugar, spirits, and tobacco. Carmen sends a representative to the legislature of Buenos Ayres.

3. The Republic of *Uruguay*, or *Banda Oriental*, comprehends the country from the northern shore of the La Plata River to the southern boundary of Brazil, between the Atlantic on the east and the river Uruguay on the west. The boundary-line between Uruguay and Brazil is partly formed by the river Guarey, or Quarrain, an affluent of the Uruguay; and farther east it follows the elevated tract which separates the basins of the two navigable rivers, Rio Negro and Yaguaron, from those which flow to the north and east. A portion of the lakes Mirim and Manqueira are comprised within its territories. Along the Uruguay River it extends nearly 300 miles from south to north, but along the Atlantic hardly 200 miles. The average width, from east to west, exceeds 230 miles. The area is stated to be nearly 70,000 square miles, or about 12,000 square miles more than England and Wales.

The surface of Uruguay is an undulating plain, on which some rocks of small elevation protrude. It is more broken towards the Atlantic, and more level towards the Uruguay. It is almost entirely covered with a rich turf, but quite destitute of wood, with the exception of a few fruit-trees, which have been introduced by the Spaniards, and among which the peach-tree succeeds best. The climate is mild: frost never occurs, and the heat of the summer is tempered by the vicinity of the sea. Rain is rather abundant in winter, but is rare in summer. Cultivation is almost entirely neglected. Cattle and horses constitute the wealth of the country, and the produce of the herds supply the articles of export, as hides, skins, hair, horns, and jerked beef. The rearing of sheep is very limited. There are some copper-mines north of Maldonado, but they are not rich, and are only worked to a small extent.

Monte Video, the capital, is a regularly built town, with a tolerably good harbour, and an extensive commerce. Its population amounts to 16,000 souls. Maldonado, at the embouchure of the La Plata, has a small, but very safe harbour, some little trade, and 2000 inhabitants. Colonia del Sacramento, nearly opposite the town of Buenos Ayres, has a good harbour for large ships, but is a small place.

The Republic of *Entre Rios* derives its name from being situated between the rivers Uruguay and Paraná, west of Uruguay. On the

North it is divided from the republic of Corrientes by the Mocoreta, an affluent of the Uruguay, and by the Sarandi, a tributary of the Paraná. It covers an area of 32,000 square miles, which is not much more than that of Scotland, the islands included. The southern extremity, as far north as 33° S. lat., is a low alluvial plain, subject to annual inundation. Farther north, the country has an undulating surface, but north of 35° S. lat. the interior is a swamp overgrown with low trees, called the forest of Montiel. The remainder is covered with fine grass, which supplies good pasture for cattle and horses, from which all the articles of export—hides, horns, tallow, and jerked beef—are derived. Cultivation is limited to a few places. The climate is moderate and healthy. There is never any frost.

Bajada de Santa Fé, or Paraná, the capital, built on the banks of the Paraná, contains 6000 inhabitants; the produce of the country is mostly exported from this place. Concepcion de la China, on the banks of the Uruguay, has 2000 inhabitants, but little trade.

The Republic of *Corrientes* extends from the boundary-line of Entre Rios to the Rio Paraná, where it runs from east to west, separating *Corrientes* from the republic of Paraguay, which lies north. It is not exactly known by what line it is separated from the republic of *Misiones*, which lies north-east of it. The surface is about 20,000 square miles, or about 5000 less than that of Ireland. The southern districts have an undulating surface, which is partly without wood and partly overgrown with low trees and bushes, but of considerable fertility. The northern districts are generally swampy, as a large portion of them is occupied by the lake of Yberá, which at certain seasons inundates the low country. It is, however, a very fertile tract. The climate is much warmer than that of Entre Rios, and several products, which require a hot climate, succeed; as cotton, sugar, and indigo. Maize is the most common grain. A kind of silk, called seta silvestre, made by a kind of caterpillar, is found in the woods, and used for coarse stuffs. Cultivation is little attended to, but some cotton and tobacco are exported.

Corrientes, the capital, is built on elevated ground, near the confluence of the rivers Paraná and Paraguay: it has about 4500 inhabitants, and some commerce.

The Republic of *Misiones* extends E. N. E. of Corrientes, between the rivers Paraná and Uruguay, to the boundary-line of Brazil, which is formed by the river Pipirí Mirim, an affluent of the Uruguay, and the Rio S. Antoni Mini, an affluent of the Iguazu, or Curitiba, and this last-mentioned river. The surface is pleasantly undulating, and the soil is very fertile. It was the principal seat of the *Misiones*, which the Jesuits had established among the Guarani Indians, and is said to have once had a population of 100,000 souls, which at present is reduced to 8000. The climate is warm, but not excessively hot; the country pro-

duces rice, maize, tobacco, sugar, and cotton, but it is now nearly a wilderness. The area is about 7500 square miles, or about 1500 square miles more than the area of Yorkshire. The capital, Candelaria, near the banks of the Paraná, had formerly a population of more than 3000 souls, which is now reduced to 700.

The Republic of *Paraguay* occupies the large peninsula formed by the parallel courses of the rivers Paraná and Paraguay, and by their confluence. The Paraná divides it on the east from Brazil, on the south-east from Misiones, and on the south from Corrientes. On the north of Paraguay is Brazil: and the boundary between both states is formed by the river Ivinheyma, a confluent of the Paraná, and the Rio Blanco, a tributary of the Paraguay, and by the Sierra de Amambahy, from whose declivities these rivers descend. West of Paraguay is the Gran Chaco. The area, according to a rough estimate, amounts to about 100,000 square miles, or about 16,000 square miles more than that of Great Britain, or is nearly equal to that of the three states of New York, Pennsylvania, and New Jersey. At the southern extremity along the Paraná, and also along the Paraguay, as far north as Angostura, the country is low, and generally covered with marshes, but without trees. Angostura is a small village, which has derived its name from the narrow bed in which the Paraguay flows at this place. Other marshes of considerable extent occur farther north on the Ypané Guazu; but there they are wooded. The greater part of the interior has a broken surface, frequently rising into high hills, and even into mountains in the Sierra de Amambahy and that of Maracayu, but the elevations have generally gentle slopes. The hills are covered with large trees, but the valleys and plains are mostly without wood, and have fine pasture-ground. The proportion of cultivable land is very considerable, but only a small part of it is under cultivation. The climate is healthy and temperate. Frost does not occur, and oppressive heat is not frequent. It has a rainy season, when the sun is near the northern tropic (between March and June), but the rains are less frequent and of shorter duration than farther north: at other times very little rain falls. The productions are numerous, but only a few of them supply articles of export. The most important is the Yerba-maté, or Paraguay tea, of which formerly 8,000,000 lbs. were exported. Great quantities of timber are sent to Buenos Ayres and other countries farther south; tobacco, sugar, and cotton are also exported. The indigo-plant and caoutchouc-tree are found wild. The river Tibiquari, which traverses the southern districts, is navigable in the greater part of its course. The inhabitants belong mostly to the tribe of the Guarani, which was civilised by the Jesuits, and a mixed race, which originated from the union of the Spaniards with the Guarani. The northern districts are in the exclusive possession of two unconquered tribes, the Mbayá and Guaycurú.

Asuncion, the capital, an irregularly built town, stands near the banks

of the Paraguay, has about 10,000 inhabitants, and a considerable trade in the produce of the country. Villa Real de Concepcion, with 4000 inhabitants, lies farther north on the Paraguay, and is the place to which the produce of the Yerbales, or forests of yerba-maté, is brought: these forests cover the hills, which are from 60 to 80 miles east of the town.

4. The Republic of *Santa Fé* lies on the western banks of the Paraná, and comprehends also the peninsula between that river and the Rio Salado. The southern boundary is determined by the Arroyo del Medio, which separates it from Buenos Ayres. On the west a desert, partly covered with coarse grass and partly with a saline efflorescence, separates it from Cordova; and on the north it stretches towards the Laguna Salados de los Porongos, and into the deserts of the Gran Chaco. The surface of the country is a dead level, from 40 to 60 feet above the level of the Paraná, partly covered with coarse grass and thistles, and partly with low mimosa trees. The climate is characterized by want of rain. Between 1827 and 1830 so little rain fell, that even the thistles failed, and a great number of cattle, horses, wild animals, and birds perished for want of food and water. Cattle and horses constitute the commercial wealth of the country. The river Tercero or Carcarañal traverses the country and is navigable. In the northern districts there is a small tribe of the widely-spread nation of the Guaycurus, living in a state of independence.

Santa Fé, the capital, is a small but well-built place, with 4000 inhabitants. It stands on the banks of the Rio Salado, which is united by an arm to the Rio Paraná, though the confluence of both rivers takes place 30 miles farther south. Rosario is a considerable place, built on the high banks of the river Paraná.

The Republic of *Cordova* lies west of Santa Fé. An uninhabited country separates it on the east from Santa Fé. On the north it is separated from the Republics of Santiago del Estero and Catamarca by the Travesia de Ambargasta and the Great Salinas. The last-mentioned region divides it also from Rioja, which is on the north-west. On the west it is contiguous to the sterile and thinly-inhabited country belonging to the Republic of S. Luis de la Punta, and here the boundary runs parallel to, and at some distance from, the river Cuarto, so that the basin of the river is included within the territories of Cordova. On the south it extends to the territory of the southern Indians; but there are no settlements south of 34° S. lat. These limits comprehend the whole mountain system of the Sierra de Cordova, which occupies the western half of this republic. From the numerous ridges of these mountains there descend many rivers and streams, which irrigate and fertilize the valleys and the plains contiguous to the base of the mountains; but they are lost in the arid country which they enter in their farther course, with the exception of the Rio Tercero, which, under the name of Carcarañal, joins the Paraná. The climate is a medium between the extreme humidity

duces rice, maize, tobacco, sugar, and cotton, but it is now nearly a wilderness. The area is about 7500 square miles, or about 1500 square miles more than the area of Yorkshire. The capital, Candelaria, near the banks of the Paraná, had formerly a population of more than 3000 souls, which is now reduced to 700.

The Republic of *Paraguay* occupies the large peninsula formed by the parallel courses of the rivers Paraná and Paraguay, and by their confluence. The Paraná divides it on the east from Brazil, on the south-east from Misiones, and on the south from Corrientes. On the north of Paraguay is Brazil: and the boundary between both states is formed by the river Ivinheyma, a confluent of the Paraná, and the Rio Blanco, a tributary of the Paraguay, and by the Sierra de Amambahy, from whose declivities these rivers descend. West of Paraguay is the Gran Chaco. The area, according to a rough estimate, amounts to about 100,000 square miles, or about 16,000 square miles more than that of Great Britain, or is nearly equal to that of the three states of New York, Pennsylvania, and New Jersey. At the southern extremity along the Paraná, and also along the Paraguay, as far north as Angostura, the country is low, and generally covered with marshes, but without trees. Angostura is a small village, which has derived its name from the narrow bed in which the Paraguay flows at this place. Other marshes of considerable extent occur farther north on the Ypané Guazu; but there they are wooded. The greater part of the interior has a broken surface, frequently rising into high hills, and even into mountains in the Sierra de Amambahy and that of Maracayu, but the elevations have generally gentle slopes. The hills are covered with large trees, but the valleys and plains are mostly without wood, and have fine pasture-ground. The proportion of cultivable land is very considerable, but only a small part of it is under cultivation. The climate is healthy and temperate. Frost does not occur, and oppressive heat is not frequent. It has a rainy season, when the sun is near the northern tropic (between March and June), but the rains are less frequent and of shorter duration than farther north: at other times very little rain falls. The productions are numerous, but only a few of them supply articles of export. The most important is the Yerba-maté, or Paraguay tea, of which formerly 8,000,000 lbs. were exported. Great quantities of timber are sent to Buenos Ayres and other countries farther south; tobacco, sugar, and cotton are also exported. The indigo-plant and caoutchouc-tree are found wild. The river Tibiquari, which traverses the southern districts, is navigable in the greater part of its course. The inhabitants belong mostly to the tribe of the Guarani, which was civilised by the Jesuits, and a mixed race, which originated from the union of the Spaniards with the Guarani. The northern districts are in the exclusive possession of two unconquered tribes, the Mbayá and Guaycurú.

Asuncion, the capital, an irregularly built town, stands near the bank

irrigated, it yields abundant crops of wheat, Indian corn, and lucerne. Rain and dew are very rare, except in the southern districts on the banks of the river Diamante, where they are so abundant that corn may be raised without irrigation. The climate is dry and healthy, though a great degree of heat is experienced in summer. It is very favourable to the growth of fruit-trees, the produce of which, consisting of figs, peaches, apples, nuts, olives, and wine, constitutes the principal articles of export. There are some silver-mines in the Paramillo Range on the side of the Vale of Uspallata, but they are not worked at present. Cattle and horses are not numerous, but mules are exported.

Mendoza, the capital, is situated not far from the eastern declivity of the Paramillo Range, 4891 feet above the sea-level, and is a neat, well-built town with 12,000 inhabitants. Two well-frequented roads lead from this place to Chile, over the Andes, by the mountain-passes of Uspallata and of Portillo. San Martin, or Villa-nueva, west of Mendoza, is a thriving place with 2000 inhabitants.

The Republic of *San Juan de la Frontera* extends along the base of the Andes from 32° S. to 30 S. lat., and comprehends the northern part of the Vale of Uspallata. The eastern districts are part of the extensive *travesia* which occupies the northern part of the Republic of San Luis, and approaches the western base of the Sierra de Cordova. The western portion of this country is occupied by several offsets of the Andes, enclosing wide and fertile valleys. The soil resembles that of Mendoza, and it is said that the produce of wheat is generally 50 for 1, and in some places 200 for 1. The climate is very pleasant, though dry. Neither rain nor dew occurs, but the heat is not excessive. It is very favourable to the growth of fruit-trees, and wine constitutes the principal article of export. In the district of Jachal, which lies contiguous to the Republic of Rioja, there are some gold-mines, which are worked on a small scale. The eastern districts, or those which lie east of the Rio de San Juan, where it flows southward to the Lakes of Guanacache, are like the northern portion of San Luis, a desert partly covered with low mimosas, and partly with sand or a salt efflorescence.

San Juan, the capital, is situated on the banks of the Rio de San Juan, and is said to have a population of 8000. It has some commerce in the wines and brandies, which are exported, and in foreign goods which are consumed in the country. A road which ascends the upper course of the Rio de San Juan leads to the mountain-pass of Patos, in the Andes, whence it descends into Chile by the Vale of Putaendo.

5. The Republic of *Rioja* lies principally within the Andes, between 30° and 28° S. lat. : it extends over the two valleys formed by the principal range of that mountain-system, and the two detached ranges of the Sierra de Famatina and Sierra Velasco, and over a considerable portion of the plain east of the last-mentioned range. The Andes divide it from Chile. On the north is Catamarca, separated from it by a sterile and

thinly-inhabited country. On the east of Rioja lies the desert called the Great Salinas, a portion of which is considered to belong to this republic. A *travesia* or sandy desert separates it from San Luis and San Juan. It is naturally and politically divided into four sections. The Vale of Guandacol, between the Andes and the Sierra de Famatina, is fertile, and not too warm for the growth of wheat, which sometimes yields 200 fold; it has also copper-mines; but neither the wheat nor the copper can be brought to market on account of the expense. Several easy mountain-passes are said to lead over the Andes to Huasco and Copiapó in Chile. The inhabitants, who are mostly of Indian origin, hunt the vicuña, which is very abundant, and its skin supplies an article of traffic. Between the Sierra de Famatina and the Sierra Velasco is the Vale of Famatina, which is hot, dry, and sterile, with the exception of a few inconsiderable tracts, in which all kinds of fruit-trees attain perfection. There are some silver-mines, which are worked on a small scale. The fertile tract which lies east of the Sierra Velasco, and borders on the Great Salinas on the east, is called Arauca, and has a soil adapted for all kinds of fruit-trees. Wine and brandy are exported. At the southern extremity of the Sierra Velasco there are grassy plains of considerable extent, called Llanos, which supply pasture to large herds of cattle and goats. Rain seldom occurs.

Rioja, the capital, is not far from the eastern base of the Sierra Velasco. It has some trade in the products of the country, and between 3000 and 4000 inhabitants.

The Republic of *Catamarca* lies farther north, extending over some valleys which run south and north, and intersect the mountain-region of the Despoblado, where it is contiguous to the principal chain of the Andes. An elevated range, the Sierra Alta, divides it from Tucuman, and a still more elevated range, the Sierra de Aconquija, from Salta, which republics are east and north of it. On the south it borders on the great Salinas and on Rioja. The principal range of the Andes divides it from the northern district of Chile. It appears to contain several fertile valleys between the mountains, in which cattle are reared and corn raised. Cotton and red pepper are cultivated for exportation; the pepper is of excellent quality.

Catamarca, the capital, is stated to contain 4000 inhabitants. Formerly the capital was London, a place founded about the time when Philip II. married Queen Mary of England: it is now nearly deserted.

The Republic of *Santiago del Estero* lies to the east of the Great Salinas, between 27° and 30° S. lat., and 62° and 65° W. long. It extends southward to the hilly region surrounding the Sierra de Cordova, and comprehends the Travesia de Ambargasta. On its south-eastern boundary is the Laguna Salados de los Porongos, and on its banks it borders on Santa Fé. On the north it is contiguous to the most fertile districts of Tucuman, but both on the east and west it is surrounded by

deserts; on the east by the Gran Chacó, and on the west by the Great Salinas. It consists of two cultivable tracts of great length, but of comparatively small width, which extend along both banks of the two rivers Dulce and Salado, and vary from one to five miles in width. The country between these tracts is less sterile than the Great Salinas or the Gran Chacó, and mostly covered with brushwood, but it appears unfit for cultivation, and even for pasture. On the cultivable tracts wheat and Indian corn yield good crops. Cochineal to some extent is collected, as well as honey and wax. The climate of this republic is considered to be the hottest in South America. Among the inhabitants there are many families of Indians who speak the Quichua language; and this is the most southern country to which that language extends. Ponchos, blankets, and coarse saddle-cloths are made and sent to the neighbouring countries.

Santiago del Estero, the capital, on the banks of the Rio Dulce, contains about 4000 inhabitants. Matara is on the Rio Salado, and from that place downwards the river is navigable for large river-boats.

The Republic of *Tucuman*, north of Santiago del Estero, lies between 26° and 27° 30' S. lat., and 62° and 66° W. long., and borders on Salta on the north. The Sierra Aconquija bounds it on the west and separates it from Catamarca, and on the east it stretches beyond the Rio Salado into the Gran Chacó. The western districts, which are contiguous to the Sierra Aconquija, are chiefly covered with high mountains, among which there are a few narrow valleys. The mountains are covered with high forest-trees, and contain good pasture. There are also some mines of gold, silver, copper, and lead. The central part of the republic, which extends over the largest, most fertile, and best cultivated part of the undulating plain of Tucuman, is called the Garden of the Provinces of La Plata. It yields rich crops of wheat, maize, rice, tobacco, and sugar; all which products, with the exception of the last mentioned, supply articles of export. The black cattle are of large size, and the horses and mules are of a good breed. Horses and mules are exported. The climate is dry and hot, but salubrious. The eastern districts on both sides of the Rio Salado are rather sterile, and there are only a few settlements on the banks of the river. A great number of Indians within this republic speak the Quichua language.

Tucuman, the capital, stands in an elevated plain, is tolerably well built, and contains 8000 inhabitants. It has some trade in the produce of the country, and sends horses and mules to Bolivia.

The Republic of *Salta* occupies the most north-western part of the Argentine Republic and extends over the greater part of the Andes of the Despoblado, the extensive valleys by which the eastern part of that mountain-region, is furrowed, and the plains which lie between the rivers Salado and Vermejo south of the mountains. In extent it is probably not inferior to the Republic of Paraguay. The line which divides it from

Bolivia on the north, runs across the table-land of Yavi, along the ridge called the Abra de Cortaderas, and thence crosses the Despoblado itself. The Desert of Atacamá lies west of it, and the boundary-line runs along the western descent of the Andes. It is divided from Catamarca and Tucuman by the Sierra de Aconquija, and the river Tala, an affluent of the Rio Dulce. On the south-east and east it stretches far into the Gran Chacó to the banks of the river Vermejo. The north-western portion is occupied by the Despoblado, a region elevated above the line of trees, and every kind of cultivation. The few inhabitants of Indian origin collect some gold, and hunt the vicuñas, alpacas, and chinchillas, whose skins they export. They bring also ice and salt to the valleys. Near the southern edge of the Despoblado are the silver-mines of S. Antonio de los Cobres and of Acay. The elevated valleys, which extend to some distance into the mountain-mass, or lie along its edges, produce large quantities of corn and maize, and have good pasture on the declivities, which are mostly well wooded. The lower valleys, along the rivers Salado and Lavayen, produce rice, maize, and tropical plants, sugar, indigo, cotton, and tobacco. On the banks of the Vermejo cochineal is collected, and the coco-plant (*Erythroxylon Peruvianum*) is raised; the tree from which the yerba-maté, or Paraguay tea, is obtained, is indigenous. The climate is as various as the productions. On the Despoblado the weather all the year round resembles our winter, while the low country on the Rio Vermejo always suffers from heat. The valleys have a more or less temperate climate, according as they approach one or the other of these two regions.

Salta, the capital, is built in the bottom of a valley, exposed to inundations; it contains from 8000 to 9000 inhabitants; its commerce is inconsiderable. Jujuy, with 4000 inhabitants, on the banks of the river of the same name, which falls into the Lavayen, is a more commercial place, as the mountain-pass begins here which runs northward to Tupiza, Potosi, and Chuquisaca through a long and very narrow valley, and over the Abra de Cortaderas, on which it rises to about 12,000 feet above the sea-level. A few years ago Jujuy made an attempt to constitute a republic independent of Salta, but we do not know with what result.

6. We have only vague estimates of the population of the republics, which are as follow :—

Buenos Ayres contains from	180,000	to	200,000
Uraguay	100,000	„	120,000
Entre Rios	30,000	„	35,000
Corrientes	35,000	„	40,000
Misiones	8,000	„	10,000
Paraguay	300,000	„	500,000
Santa Fé	15,000	„	20,000
Cordova	80,000	„	85,000
San Luis	20,000	„	25,000

Mendoza	35,000	to	40,000
San Juan	22,000	„	25,000
Rioja	18,000	„	20,000
Catamarca	30,000	„	35,000
Santiago	45,000	„	50,000
Tucuman	40,000	„	45,000
Salta	50,000	„	60,000

1,008,000 „ 1,320,000

In the southern republics the population consists almost entirely of whites. In Paraguay, the Misiones and Corrientes, the Guarani Indians, who were civilized by the Jesuits, constitute the bulk of the people. Many Indian families are also settled in Entre Rios, Santa Fé, and Cordova. In the northern republics (north of 28° S. lat.) there are Peruvian Indians who speak the Quichua language, and they increase in number as we proceed northward. A great portion of the country is still the undisturbed property of savage tribes. Numerous tribes inhabit the Gran Chacó, or country between the Paraguay and Paraná on the east, and the Rio Salado on the west. The Guaycuru tribe seems to be the most numerous, and a branch of them recently lived on the west of the Rio Salado, near the Laguna Salados de los Porongos, but it is now nearly extirpated. The Ranqueles inhabit the country south of 35° S. lat. between Buenos Ayres and the Andes.

The manufactures are very inconsiderable: only a few woollen stuffs are made at Santiago del Estero, and sent to the neighbouring countries. British manufactures are now chiefly used.

The internal commerce is considerable, as almost every republic produces something peculiar, which is in demand in the neighbouring countries. It is also facilitated by the level character of the country, and its climate, which is generally dry; the roads also are good. The navigation on the Paraguay river extends to the northern boundary of these republics; on the Paraná to the Island of Apipé, and on the Uruguay to the Salto Chico: vessels of 300 tons burden can ascend these rivers to these respective places. By this inland navigation the products of the northern republics are brought to Buenos Ayres or Monte Video, whence they are exported. But the commerce with the neighbouring countries is very limited; horses and mules were formerly exported in large numbers to Bolivia and Peru, but since the mines in these countries have fallen off, this traffic has almost entirely ceased; there is, however, some commercial intercourse between Mendoza and Chile, by the mountain-pass of Uspallata.

The maritime commerce is concentrated in the two ports of Monte Video and Buenos Ayres, each of which is entered by near 300 vessels annually. The imports are chiefly manufactures, especially British, wine, brandy, spirits, coffee, sugar, tobacco, and some other less im-

portant articles ; the returns are gold and silver, and horse-hides, jerked beef, horns, horse-hair, wool, tallow, and chinchilla and nutria skins; corn and flour are sent to Brazil. The exports of Monte Video amount in value to about 800,000*l.*, and those of Buenos Ayres to 1,300,000*l.* Monte Video exports the produce of Uruguay, Entre Rios, and Corrientes, and supplies these countries with foreign commodities. The other republics receive foreign commodities through Buenos Ayres, and send their produce to that place. Paraguay has had no foreign intercourse since 1814, owing to the policy of Dr. Francia, the dictator.

7. The Rio de la Plata was discovered by Juan Diaz de Solis; and in 1530 Sebastian Cabot sailed up it as far as Asuncion in Paraguay. In 1534 the Spaniards sent a colony to Paraguay, and thence they gradually spread over the country. In 1580 Don Juan de Garay built the town of Buenos Ayres. In the seventeenth and eighteenth centuries the Jesuits civilized the Guarani in Paraguay and the Misiones, but they were expelled in 1768. In 1808, when Joseph Bonaparte was made King of Spain, the country adhered to the old dynasty, and in 1810 erected a separate government. But Paraguay did not submit to the Junta, and formed a distinct government, of which, in 1814, Dr. Francia became dictator. The policy of Ferdinand VII., after his restoration to the throne of Spain, did not satisfy the provinces of La Plata, and in 1816 they declared their independence in the town of San Miguel de Tucuman. In 1819 they formed a federal government, but they soon disagreed respecting its power, and the union was dissolved. Each of these republics has an entirely independent government: the legislature consists of a senate and house of representatives; the executive is vested in a president or governor. But in most of these republics the president or governor exercises absolute power.

BRAZIL.

1. *Situation, Extent, Boundaries.* 2. *Surface and Soil, Mountains and Plains, Rivers and Lakes.* 3. *Climate and Productions.* 4. *Inhabitants and Population.* 5. *Political Divisions and Towns.* 6. *Manufactures and Commerce.* 7. *History and Government.*

1. The empire of Brazil comprehends the most eastern portion of South America; the most northern point is at the sources of the Rio Branco, an affluent of the Guainia or Rio Negro, north of 4° N. lat.; the most southern part is along the boundary-line between Uruguay and Brazil, which traverses the Lake of Mirim, and terminates on the

Atlantic between 32° and 33° S. lat. The length from north to south exceeds 2600 miles. The greatest width occurs between 5° and 10° S. lat., where it stretches from the shores of the Atlantic Ocean (35° W. long.) to the banks of the Rio Yavari (72° W. long.), a distance of more than 2500 miles. The surface, according to a rough estimate, is about 2,800,000 square miles, or at least twelve times that of France.

The Atlantic Ocean bounds it on the south-east, east, and north-east. On the north are French, Dutch, and English Guayana, and the Republic of Venezuela. The line which separates the European possessions from Brazil begins on the east at the mouth of the river Oyapoc, which by treaty has been determined as the boundary between Brazil and French Guayana. From the source of this river it turns westward, following the Serra de Acaray, which divides the waters that fall into the ocean from those that join the Amazonas. Near 59° W. long. and 2° N. lat. it turns to the north, and after reaching the range of the Sierra Pacaraïma (4° N. lat.), it continues westward to the sources of the Rio Parima, whence it runs southward to the vicinity of 1° N. lat. Farther west, a straight line, cutting the course of the river Guafnia, between S. Carlos del Rio Negro and S. José de Marabitanos, is considered to form the line between Brazil and Venezuela. The boundary-line between Brazil and Ecuador, which lies west of it, has not been determined. The meridian of 70° W. long. is usually considered as the boundary, but the Brazilians claim some countries which lie farther west. South of the Amazonas, the western boundary of Brazil is contiguous to Peru and Bolivia. It is divided from Peru by the river Yavari, from its junction with the Amazonas to its source, which is supposed to be near 11° N. lat. It then stretches along this parallel eastward to the Rio Madeira, and along the banks of the last-mentioned river, upwards to its confluence with the Rio Beni. At the confluence of the Madeira and Beni commences the boundary between Brazil and Bolivia, which follows the Madeira to the junction of its two great branches, the Mamoré and Guaporé, and the course of the last-mentioned river for some distance; but between the mouths of the rivers Ubahi and Paragau it leaves the Guaporé, and runs in a general south-eastern direction to the south-western extremity of the Serra Aguapehy, whence by a more southern direction it gradually approaches the Rio Paraguay, until it reaches its banks near Nova Coimbra, (20° S. lat.) Between 20° and 21° S. lat., the Paraguay forms the boundary between Brazil and Bolivia. Between the rivers Paraguay and Paraná, Brazil borders on Paraguay, and the boundary-line is formed by the Rio Blanco, an affluent of the Paraguay, and the Rio Ivinheyma, a tributary of the Paraná. From the mouth of the Ivinheyma, southward, the Rio Paraná divides Paraguay from Brazil, up to the mouth of the Rio Curitiba or Iguazu Grande, where the Missiones begin to border on Brazil. Between the Rio Curitiba and the Uruguay, which are parallel to one another, the

boundary-line between the Mississipi and Brazil is indicated by the two small rivers S. Antonio Miss and Foz de Iguaçu. Farther south, Brazil is divided from the Mississipi and Guayana by the course of the Rio Uruguay. The most southern extremity of Brazil is contiguous to the Guayana & Uruguay. The boundary-line begins on the banks of the Rio Uruguay, at the mouth of the Rio Uruguay, and follows the course of the Rio Uruguay river in its source, where a ridge of high ground rises, which extends towards the Laguna dos Patos. This ridge marks the boundary-line as far east as the source of the Rio Piratininga, which divides it in its mouth in the Rio de S. Gonzalo, separates Brazil from Guayana. South of the Rio de S. Gonzalo, the northern portion of the tract between Lago Maria and the Atlantic is included within the territory of Brazil.

It would thus be seen that the southern declivity of the mountain-system of Patagonia, more than four-fifths of the plain of the Rio Amazonas, all that part of it which lies east of 70° W. long., a considerable part of the Central Andean Plateau, and nearly the whole of the Amazonian-system of Brazil. The northern and western provinces of Brazil consist of immense alluvial plains of great fertility, but they possess an extremely unhealthy climate, owing to the combination of great heat with excessive moisture, and the extensive inundations of the river which cover the greater part of them for several months in the year. The central, eastern and southern provinces vary considerably in climate, but still more in productive powers: some parts are hardly inferior in fertility to the most favoured spots on the globe, while others are apparently condemned to everlasting sterility. In general they may be considered as one extensive table-land of considerable elevation, which rises from the coast with a rather rapid ascent, and extends with an undulating and sometimes hilly surface several hundred miles in every direction, descending gradually towards the north and south. Where these two slopes, the northern and southern, meet, a continuous chain of high hills stretches across the table-land from east-south-east to west-north-west, between 20° and 10° S. lat., and this high ground forms the water-shed between the rivers which run south and north. Hence it is called Serra dos Vertentes, or the Water-shed Chain. The ascent to the table-land from the Atlantic, south of Punta Grossa (24° S. lat.), is extremely steep, and in the space of a few miles the country rises 2000 and even 2500 feet. Accordingly it has the appearance of an elevated mountain-range, and is called Serra de Cubatão. In these parts the mountains come close to the shores, which are indented by numerous extensive inlets. North of 24°, and especially north of 22°, or of Cape S. Thomé, a low tract of great width divides the mountain-slope from the sea, and the slope itself is not steep, as it rises in terraces, and occupies a width of from 150 to 200 miles. The uppermost terrace is formed by a continuous chain of mountains, which runs parallel to the river S. Francisco.

east of it. This chain has obtained the name of Serra do Espinhaço, the Backbone Chain.

Brazil has a great number of rivers. All the affluents of the Amazonas, which fall into it east of the Rio Madeira, from the south, have their whole course within the territories of the empire; this is also the case with those which join it east of the embouchure of the Guaiânia or Rio Negro. Of those affluents of the Amazonas which fall into it from the north between the mouths of the Madeira and Guaiânia, and that of the Içari, only the lower portion of their courses lies within Brazil. The rivers which drain the southern portion of the table-land carry their waters to the two large rivers Paraná and Paraguay, which afterwards unite, but not within Brazil. All the larger rivers which fall into the Amazonas, and also those which join the Paraná, have their course interrupted by rapids and cataracts, but no waterfalls occur in the Paraguay: notwithstanding these impediments, all these rivers are navigated, and some of them all through their course; *portages* occur where the impediments are too great to be overcome. Those rivers which do not run either the Amazonas or the Paraná, and which are navigated to a considerable extent, are, from north to south, the following—the Itapiricú, the Parnahyba, and the Jaguaribe, west of Cape S. Roque; and south of it the Rio S. Francisco, the Rio Grande do Belmonte, the Rio Porce, the Parahyba, and the Rio Grande do Sul with the Jacuhy.

Lakes are very numerous in the Plain of the Amazonas, and some of them of considerable extent during the rainy season. In that portion of the Central Longitudinal Plain which is traversed by the Rio Paraguay, a temporary lake of Xarayes is formed during the wet season, when it covers several thousand square miles; in the dry season it entirely disappears. There are numerous lakes at the southern extremity of the empire in the low country bordering on the Republic of Uruguay, among which the largest is the Laguna dos Patos, and next to it Lake Mirim. The eastern part of Lake Mirim is included within Uruguay. It is remarkable that no lake of any extent occurs on the wide expanse of the table-land, and even small lakes are not common.

3. The greater part of Brazil lies within the tropics, but a considerable portion of it is in the southern temperate zone; it contains extensive and fertile plains, as well as large table-lands elevated from 2000 to 2500 feet above the sea. The climate, therefore, must vary greatly in the different regions. The plains on the Rio Amazonas and those east of the mouth of that river are characterised by excessive heat which prevails the year round, and by abundance of rain in every month of the year. This climate seems to prevail in all the northern provinces, and as far south as 10° S. lat., with the exception of that tract which lies west of 40° W. long., and which suffers rather from drought than from abundance of rain. The second region comprehends the countries south of 10° S. lat. and north of the Serra dos Vertentes. The low country along

the sea resembles in climate those tropical countries which are little elevated above the sea-level, and are backed by mountains; the heat is considerable and often oppressive in summer, and the rains are abundant in that season. In other parts of the year little or no rain falls in general. The terraces, by which the country rises to the table-lands, partake in some degree of the peculiarities of this climate, where the ascent is rather steep, as between 18° and 24° S. lat.; but where the country rises slowly and the terraces are wide, as between 10° and 18° S. lat., rain is by no means abundant, and years often pass without a drop falling. On the table-land itself the mean annual temperature seems to differ from that of the coast by 8° or 10° . The rains are more regular than on the declivities just mentioned, but they are far from being abundant, and hence the vegetation of this region is much less vigorous than along the sea coast. Though our meteorological observations do not extend over the whole of the table-land, it would seem that the rains diminish as we advance westward, and that the western part of Brazil, which is known by the name of Campos de Parecis, is an arid desert. In the most elevated parts of the table-land night frosts are experienced, when the sun is near the northern tropic. The countries south of the Serra dos Vertentes are chiefly situated in the temperate zone, at least those east of 55° W. long. which are drained by the Paraná. The rains fall most abundantly in the summer, but in the other seasons also they are frequent. The heat is moderate, and the vegetation, though vigorous, less so than on the coast farther north. The countries which are drained by the Paraguay, and lie west of 55° , have a much hotter climate, and very abundant tropical rains, but there is a long dry season in which no rain falls. In these parts frost does not occur, as is frequently the case in the countries east of 55° ; during the winter months south of 30° S. lat. the table-land of Curitiba and the more elevated tracts towards the boundary of Uruguay seem to have a regular winter season with frost, but it only lasts a few weeks.

The productions of Brazil are very numerous. Nearly all the trees of the islands of the Columbian Archipelago occur in those parts which are north of 23° S. lat.; and in the extensive forests which cover the declivities of the mountains, and the plains, there are many vegetable productions which do not occur in the Archipelago. In the southern provinces the grains, vegetables, and fruit-trees of Europe succeed completely, and most of them are cultivated to a great extent, especially wheat, barley, rice, maize, and tobacco. Within the tropics the principal objects of agriculture are mandioc, rice, yams, plantains, and sweet potatoes, with coffee, sugar, cotton, and cacao; the four last-mentioned articles are chiefly cultivated for exportation. The forests supply excellent timber, several kinds of wood for cabinet-work, and others for dyeing; among the dyewoods, Brazil-wood and Campeche-wood are important articles of trade. The other products are vanilla, sarsaparilla,

ipêcacuanha, canella do clavo (from the *Persea caryophyllata*, Mart.), anotto, caoutchouc, copal, and copaivi balsam, Brazil nuts, tamarinds, tonca and pechurim beans, and pitch. Cinchona bark also exists, but it has not yet been brought to market. The yerba-maté is found in the southern provinces and is exported.

The animals introduced by Europeans have succeeded very well. There are numerous herds of cattle and horses in the countries south of 25° S. lat., where they wander about nearly in a wild state. In other parts they are less numerous: on the table-land mules and asses are preferred to horses. Pigs are abundant in some parts of the table-lands, but not elsewhere. Sheep do not appear to be numerous, and their wool is generally of inferior quality. The wild animals common in South America occur here also, with the exception of llamas and guanacoes, and of the puma and spectacled bear. The wild animals killed for food are the tapir, three species of porcupine, five species of deer, several species of monkeys, the Brazilian hare, five species of armadillo, seven species of pacas and agoutis, and the wild boar. Emus are very numerous on the table-land, as well as nearly all the other birds of South America, especially toucans, tanagras, parrots, the Balearic crane, humming birds, and several species of pigeons. Whales visit the sea as far north as 12° S. lat., and the *Phæter macrocephalus* (Linn.) is found south of 30° S. lat. The *garopa* is met with north of 15° S. lat., and great quantities are annually caught and exported. Several kinds of fish which are caught in the Amazonas supply articles of export. The lamantin or manati is still common in that river, and in some of its affluents: several species of turtle are also found in the Amazonas, and the mantega or fat substance, extracted from the eggs of the turtles, is an important article in the commerce of these regions; several thousand persons are occupied in its preparation. Bees are not kept, but there are several kinds of wild bees.

Brazil is noted for its gold mines and diamonds. Gold occurs on both sides of the Serra dos Vertentes, and is found in almost all the rivers which originate in that range. There are also mines in the vicinity of Villa Rica, and at Congo Soco, near the Villa de Sabara, in Minas Geraes. No silver has been found, and only a few traces of copper, tin, and quicksilver. Iron is very abundant, and in several places there are whole mountains of iron ore; this metal has lately begun to be worked. Diamonds occur in the sand of several rivers, but it is not lawful to collect them. They are gathered on account of the government in the Diamond District of Tejuco, which lies east of the Rio San Francisco, under 8° S. lat.; and more especially from the sand of the river Jequetinhonha, an affluent of the Rio do Belmonte, which traverses the district. The great diamond was not found in this district, but in the river Abaeté, a confluent of the Rio San Francisco from the west: it is the largest yet known, and weighed 138½ carats. Topazes are found in several places. Salt is abundant, and occurs either in licks, which are much resorted to by the cattle and wild

animals, or in springs. There is a salt district on both sides of the Rio de San Francisco between 7° and 10° S. lat. which has an average width of from 80 to 100 miles; and another at the western extremity of the Serra dos Vertentes, in the Serra de Aguapehy. In both districts much salt is collected.

4. The population of Brazil is variously estimated at four and six millions, in which amount the independent tribes, that still occupy more than one-half of the empire, are not included. It is composed of whites, negroes, mulattoes, mamelucos, and aboriginal tribes. The whites are chiefly the descendants of Portuguese; it is only rarely that other Europeans in any considerable numbers have settled in Brazil: the number of the whites is stated to be between one million and one million and a half. The negroes constitute the bulk of the population in all the countries along the coast, where the cultivation of tropical plants is the chief object of agriculture. Their number is stated to exceed two millions and a half, more than three-fourths of whom are slaves. The mulattoes, or descendants, of Europeans and negroes are not numerous. The mamelucos, or descendants of Europeans and Indians, are much valued for their quiet disposition and honesty: they are more numerous than the mulattoes.

The aboriginal tribes probably exceed two hundred; but it is quite impossible to estimate the number of individuals, and it can hardly be called an approximation when they are stated to amount to a million. Some of these numerous tribes had made little progress in civilization at the time when Europeans began to settle in the country; but it seems that all of them had begun to cultivate the ground: they planted two kinds of mandioc, plantains, and a species of palm-tree; but the plantations were not extensive, and they derived the greater part of their subsistence from the chase, the wild fruits of the forest, and especially from fishing in the numerous rivers and lakes. Nearly all these tribes have remained stationary. In the countries on the sea-coast only the Jesuits contrived to induce some tribes to live together in one place, and to adopt a more regular system of cultivation; but on the suppression of that order, the Indians left the villages and returned to the woods, where they now cultivate a piece of ground barely sufficient to give them a subsistence, and employ their time chiefly in fishing and hunting. Their huts, however, are somewhat better than those of the savage tribes, and they profess Christianity. Many of the tribes which inhabit the countries north of the Amazonas consist of a small number of families, but several of those which inhabit the forests south of that river contain several thousand individuals, as the Mundrucus on the Rio Tapajos, and the Guaycuru on the Paraguay river. The last-mentioned tribe is perhaps more widely spread over South America than any other savage tribe, as it is found on both sides of the Paraguay river from 18° to 30° S. lat.

5. Brazil is politically divided into twenty provinces, of which at

least twelve are larger than, or equal in extent to, Great Britain, and the other eight may be compared with the smaller kingdoms of Europe. Fifteen provinces are situated along the coast of the Atlantic, and five in the interior.

1. *Rio Grande do Sul*, or *De San Pedro*, comprehends the most southern portion of Brazil, extending from the boundary of Uruguay northward to the river Mambituba, whose embouchure is south of the Morro de Santa Marta Grande, and from the Atlantic westward to the banks of the Uruguay river. It consists of a low plain along the sea, and a more elevated and in some parts a mountainous country in the interior. The plains which occupy less than one-fourth of the province are interspersed with numerous lakes, which lie in a chain parallel to the shores. The largest are Lake Mirim, and the Laguna dos Patos. The soil between the coast and the lakes consists of loose sand and low sand-hills, and is nearly without vegetation; but that part of the plain which lies west of the lakes, and gradually rises towards the table-land, has a fertile soil, which is partly cultivated, but chiefly used as pasture-ground for cattle. The valleys on the declivities are also cultivated, but the extensive plains on the table-land afford only pasture for cattle and horses. In the most northern and more broken districts of the table-land, there are extensive forests of lofty trees, which produce fine timber. The navigable river Jacuhy falls into the Laguna dos Patos, near the northern extremity, and leaves it at the southern under the name of Rio Grande. The navigable river Rio de San Gonzalo connects the lakes of Mirim and of Los Patos; the Ybicuy falls into the Uruguay. Both soil and climate unite to favour the cultivation of the European cerealia, maize included, and of the fruit-trees of southern Europe. Wheat is exported, but the chief articles of commerce are hides, horns, and jerked beef; it is stated that twenty millions of pounds of jerked beef are sent annually to the other provinces of Brazil. The hides and horns are mostly exported to Europe.

Porto Allegro, the capital, situated on a bay formed by the mouth of the river Jacuhy, is well built, and contains about 10,000 inhabitants. Ship-building is carried on here. Sao Leopoldo, north of it, is a new and thriving place, with 5000 inhabitants. Francisco de Paula, farther to the north-east, is also a new town, which in 1831 had 8000 inhabitants, who were chiefly occupied in preparing jerked beef. San Pedro do Sul, or Rio Grande, the only harbour of the province, is built on a sandy tongue of land some miles from the mouth of the Rio Grande. It contains from 3000 to 4000 inhabitants, and carries on a considerable trade with Rio Janéiro.

2. *Santa Catharina* comprehends the mountainous country which extends along the sea-coast from the northern banks of the Rio Mambituba to the southern of the Rio Sahy, which separates it from the province of San Paulo. It extends westward only from 40 to 60 miles, to the elevated ridge which constitutes the eastern edge of the table-land of San Paulo. The Island of Santa Catharina is the most

valuable part of the province. It is about 30 miles long from south to north, and from 4 to 8 wide; the surface is a succession of hills and dales, and the soil has a considerable degree of fertility. It is mostly cultivated, but still contains some forests. The strait, which separates the island from the main land, is only 200 fathoms wide at the narrowest part, and forms a safe and excellent harbour. That portion of the province which lies on the continent has an extremely broken and in many parts mountainous surface, which is covered with wood, where it has not been cleared for cultivation; but such spots are neither numerous nor generally of great extent. The mountains, which form the slope of the table-land, rise very abruptly to a great height. The grains and fruits of Southern Europe succeed to perfection. The exports consist of wheat, maize, mandioc, fish, train-oil, and timber.

Nossa Senhora de Desterro, the capital, on the Island of Santa Catharina, has between 5000 and 6000 inhabitants, is well built, and a very thriving place. Spermaceti-oil is manufactured here. Laguna, on the continent, has a good harbour for coasting-vessels, and exports grain, timber, and fish. San Francisco, near the northern boundary, has a good harbour, in which grain, timber, and cordage are shipped.

3. *San*, or *São Paulo*, is a large province which occupies the table-land west of Santa Catharina, and the whole of that which bears its name, to 20° S. lat., including the coast between the river Sahy and the Bay of Angra dos Reys. Westward it extends to the Rio Paraná. The coast, like that of Santa Catharina, is a succession of bold headlands and deep inlets; the latter are surrounded by flats of considerable extent and great fertility, on which sugar, tobacco, cotton, and coffee are raised. The table-land has, in some places, an undulating, and in others a level surface, on which wood is not frequent, but the pastures are abundant. Cattle and horses are the principal articles of export, but wheat and rice are generally cultivated, and in some places mandioc; all three are exported to a considerable amount. A great part of the table-land, namely, the western districts, which border on the Paraná, are still in possession of independent tribes.

San Paulo, the capital, is situated on the table-land, about 12 miles from the harbour of Santos, and 2462 feet above the sea-level. It is a well-built town, with more than 40,000 inhabitants, and carries on an extensive commerce with several towns of Brazil: it exports the produce of the table-land, of which it is the general entrepôt, as a good carriage road leads from it to Santos. The population consists of whites and mamelucos in equal parts; and it has some good establishments for education. Sorocaba, to the west of San Paulo, has 12,000 inhabitants, and a considerable trade in cattle and grain. In its vicinity is Araasojava, a mountain of considerable extent, consisting of iron-ore, which is worked. Curitiba, in the southern districts, on the river of the same name, is said to have 12,000 inhabitants, and likewise some trade in grain and cattle.

On the river Tieté, an eastern affluent of the Paraná, is Porto Feliz, a small town, but remarkable as the place where a navigation begins which extends to the most western districts of the empire. After descending the Tieté to its mouth, and then the Paraná to the confluence of the Rio Pardo, the last-mentioned river is ascended nearly to its source, and afterwards the Tacoari is reached by a short portage. The Tacoari is then descended to its junction with the Rio Paraguay and, this presents an immense extent of navigable waters. This navigation, however, is rendered difficult by the numerous cataracts of the rivers Pardo and Tacoari, and in some degree by those of the Tieté; and it is now less used than formerly.

Santos, the harbour of S. Paulo, is built on the southern shores of the Island of S. Vincente, and has a safe and good harbour of easy access. It has 8000 inhabitants, and a considerable trade with Rio de Janeiro, Pernambuco, Ceará, and Maranhão. Several European vessels visit it annually. S. Sebastião, on the island of the same name, which is only divided by a strait from that of S. Vincente, has 5000 inhabitants, and exports timber and grain. Iguape, farther west, has a good harbour, 6500 inhabitants, and exports great quantities of rice and timber.

4. *Rio de Janeiro* is of small extent, being bounded on the north, and partly also on the west, by the river Parahyba, and on the east and south being washed by the Atlantic. It is traversed in all its length from west to east by the Serra do Mar, which attains its highest elevation north-east of the Bay of Rio Janeiro, in the Serra dos Orgãos. In the western districts the mountains advance close to the shores of the sea, and the level tracts are of small extent, but near 44° W. long. they recede to a greater distance from the shores, and consequently there are plains of considerable extent in the eastern districts. These plains are intersected by a few ranges of high hills which branch off from the mountains in a southern direction and approach the sea. The mountains occupy a tract varying from 20 to 25 miles in width, and at the back of them is the vale of the river Parahyba, which is from 10 to 12 miles wide. The country along the sea is generally very fertile; but the vale of the Rio Parahyba is only moderately so, and it contains some prairies. The rest of the province is covered with wood, where it has not been cleared for cultivation. At the eastern extremity of the province is the lake of Araruama, which surrounds the isolated rocks of Cape Frio. It is 20 miles long, and eight broad in the widest part; it communicates with the sea at the eastern extremity by a channel about 50 yards wide. On the narrow sandy tract which divides the lake from the sea a great quantity of salt is collected. In the centre of the coast is the Bay of Rio de Janeiro, and towards the western extremity that called Angra dos Reys. The last-mentioned bay is 70 miles in length, with an average width of 10 miles, and is separated from the sea by the Islands of Marambaya and Ilha Grande. The two entrances which lead

to it are from five to eight miles wide, with an average depth of 30 fathoms. The bay contains many small islands, between which there is safe anchorage. Though cultivation has rapidly increased in the present century, the greater part of the province is still covered with forests. Rice, mandioc, maize, sugar, coffee, and cotton are largely grown, and the three last are exported. Near the mouth of the Rio Parahyba there are some families of wild Indians.

Rio de Janeiro, or S. Sebastião de Rio de Janeiro, the capital of the empire, stands on the western shores of the Bahia de Rio de Janeiro, which is about 24 miles in length, nearly north and south, and 15 miles in its greatest width. The entrance, which is hardly a mile wide, is formed by two projecting, rocky, and elevated head-lands, which are fortified, as well as a small island near the entrance. The Bay of Rio Janeiro is one of the best harbours on the globe. The town stands about four miles from the entrance, and extends about three miles on undulating ground. The northern part, or the city, consists of eight straight, parallel streets, which are, however, narrow, and intersected at right angles by many still narrower streets. The streets are paved and have generally footpaths. The houses are usually built of stone, and have two stories. None of the public buildings are distinguished for beauty, except the cathedral, and the churches of Da Candelaria and S. Francisco de Paula, and the college which once belonged to the Jesuits, and is now converted into barracks. An aqueduct brings the waters of the Cerro de Corcovado to the town; it is built of hewn stone and is from five to six miles long. The imperial palace is not distinguished by architectural beauty, though it is a vast building. The Exchange and Theatre are fine edifices. There are several institutions for the promotion of education and for scientific purposes. There are some sugar-houses, tanneries, cotton manufactories, and rum distilleries. The population exceeds 200,000; the number of whites and negroes seems to be about the same. The commerce of Rio with the other provinces and foreign countries is very great. Nearly all the produce of the southern provinces of the empire is sent to this place, whence it is shipped to the places of consumption or to the foreign market, and the province itself supplies great quantities of coffee and cotton. Parati, near the western extremity of the Angra dos Reys, has 4000 inhabitants and some trade. Ubatuba, farther west, has 3000 inhabitants and also some trade.

5. *Espirito Santo* extends north of Rio de Janeiro, along the sea to the mouth of the Rio Grande do Belmonte, and from 60 to 100 miles inland. Its western limits are hardly known, as they lie in a broken and hilly country which is covered with continuous forests and inhabited by the tribe of the Botocudos, who are feared by the whites on account of their warlike disposition and their cannibalism. The country along the sea is chiefly a level plain, partly wooded, and partly overgrown with grass. The soil is generally fertile, but only a small part of it is under

cultivation; it produces sugar, cotton, rice, mandioc, and maize. The fisheries along the coast, and near the islands and Bank of Abrolhos, are the source of considerable wealth to the inhabitants. In these parts the garopa is the most abundant. The Rio Doce, the most considerable river, is navigable for 60 miles from its mouth, where its course is interrupted by cataracts.

Victoria, the capital, built on an island in the large Bay of Espiritu Santo, has a good harbour and 12,000 inhabitants. Caravellas, on an inlet of the sea, which is only navigable for small vessels, has 4000 inhabitants, and exports tapioca or mandioc flour, and fish. Porto Seguro has a harbour for small vessels, and some trade in fish.

6. *Bahia* extends along the sea from the Rio Grande do Belmonte to the Rio Real ($11^{\circ} 30'$), a small river which divides it from Sergipe. Westward it extends to the banks of the Rio S. Francisco. Along the coast, which south of the Bahia de Todos os Santos is low, but north of it is high, there extends a country from 30 to 50 miles in width, the surface of which is rather hilly, but which contains several flats of considerable extent. It is plentifully watered, has regular seasons, abundance of rain, and is very fertile. The country which surrounds the Bahia de Todos os Santos is well known for its fertility, and is called the Reconcavo. Sugar, cotton, tobacco, rice, and mandioc are grown to a great extent. At the back of this lower tract the country rises in terraces, the hard and arid soil of which is not favourable to cultivation: this tract suffers for want of rain. In some parts cotton is cultivated. The valley of the Rio S. Francisco, which comprehends the western districts of the province, is of moderate fertility, and produces cotton and grain. In these districts the greatest part of the salt is collected which is consumed in the northern provinces. The navigable rivers are the Rio Grande do Belmonte, Rio Pardo or Pataye, Rio de Contas, Paraguassu, and Itapicuru.

Bahia, or S. Salvador de Bahia, the capital, stands on the western shore of the Bahia de Todos os Santos, which extends 28 miles from south to north and 20 from east to west. The bay has two entrances on both sides of the Island of Itaparica, of which the eastern is about five miles wide, and is used by large vessels; the western, called Barra Falsa, is only two miles wide, and owing to its shallowness can only be navigated by coasting-vessels. The best anchorage is opposite the town of Bahia. The town consists of two parts, the Praya or Cidade Baxa, and the Cidade Alta. The Praya (beach) is one street nearly four miles long, and contains the magazines and warehouses for inland produce and foreign goods. At its southern extremity are the arsenal and the royal docks, and about three miles north-east of it, at Tagagipe, the docks in which mercantile vessels are built. A steep ascent leads to the Cidade Alta, which is situated on a hill of uneven surface from 200 to 300 feet above the Praya. The upper town consists of stone houses from three to five stories high and of a good appearance. In the centre are several

squares, surrounded principally by public buildings. The chief building is the College of the Jesuits, which is now converted into an hospital, but the church has been converted into a cathedral. There are some other handsome churches. This part of the town is surrounded by extensive groves of orange-trees and plantain plantations. It contains a population exceeding 180,000 souls, and carries on a very active commerce in sugar, cotton, tobacco, and dye-woods. The Island of Itaparica is about 18 miles long and 5 wide on an average. The population amounts to 16,000 souls, of whom 7000 are in the town of S. Gonzalo, where train-oil is prepared. S. Amaro is situated on a river which falls into the northern extremity of the bay, and in a country productive in sugar and tobacco: it has 10,000 inhabitants. Cachoeira, on the river Paraguassu, is built at the point to which the tide ascends, and near some cataracts which interrupt the ascent of the river. In its neighbourhood there are very extensive plantations of sugar and tobacco; it contains 25,000 inhabitants. Camamú, a sea-port south of the Bahia, is a thriving place with 8000 inhabitants: it sends to the capital mandioc, rice, maize, coffee, and the bark of the mango-tree, which is extensively used in tanning. A row of small islands and rocks skirt the shores north of the Bahia de Camamú, and form a channel by which small vessels can reach the Barra Falsa, without being exposed to the dangers of an open sea.

7. *Sergipe del Rey* extends along the coast from the Rio Real to the S. Francisco, and along the southern banks of the last-mentioned river about 250 miles inland. The surface is a plain, interspersed with hills in its western districts. The eastern portion is of considerable fertility, and covered with large trees where it has not been cleared for cultivation. The western part is rather sterile and stony, and supplies only indifferent pasture; it is in many parts overgrown with bushes and low trees. The commercial products are cotton, sugar, coffee, and timber. All the rivers have bars, and only small vessels can enter them. Sergipe del Rey, the capital, is a small place, with a sugar-house and some tan-pits. The most commercial and thriving places are Estancia, on the Rio Real, and Laranjeiras, not far from the banks of the Rio Sergipe.

8. *Das Alagoas* extends from the northern banks of the S. Francisco to the river Unna, about 140 miles along the sea, and more than 200 inland, to the great cataract of Paulo Affonso, in the Rio S. Francisco. The western districts are hilly, but dry, and well adapted for the cultivation of cotton. The eastern parts, to the distance of 30 or 50 miles from the shores, are level, and in many places swampy; hence the name of the province, which signifies marsh-land. It produces sugar, tobacco, and cotton; and the forests supply timber and dye-wood: much ippecacuanha is exported. The province contains the Lake of Manguaba, which is said to be 30 miles long, and 3 miles broad in the widest part:

its waters are carried to the sea by the Rio das Alagoas, which, however, is too shallow even for small vessels.

Alagoas, the capital, is situated at the northern extremity of the Lake of Manguaba. It is a thriving place, as a road leads from it to the united ports of Jaragua and Pajussara, the only one which can be visited by vessels of moderate size. In this port is shipped the greater part of the produce which is exported. Maceyo, a new town, not far from these ports, is also a thriving place. Anadia, in the hilly country, is surrounded by plantations of cotton: it has 10,000 inhabitants. Pinedo, on the Rio S. Francisco, a commercial town 25 miles from the sea, has 10,000 inhabitants.

9. *Pernambuco* is a very large province. It consists of two portions, the Maritime Region and the Sertão. The Maritime Region extends along the sea, between the river Unna on the south and the Tracunhaen on the north, and runs about 250 miles inland. The surface along the sea is rather level, but at the distance of 30 or 40 miles inland it rises into numerous hills and small table-lands. The soil is generally dry and of indifferent quality, though interspersed with very fertile tracts. Sugar and cotton are cultivated to a great extent, and dye-woods are cut in the forests with which a large part of the hills are clothed. The Sertão extends to the west of Alagoas, Sergipe, and Bahia, on the western banks of the Rio Francisco to the mouth of the river Carynhanha, which joins the S. Francisco between 15° and 16° S. lat. It lies entirely within the table-land of Brazil, and has a dry soil of indifferent quality, which supplies pasture for numerous cattle, and produces cotton of good quality. Along the banks of the Rio Francisco much salt is made. The S. Francisco is navigable as far down as Vergem Redonda, near the boundary-line of Das Alagoas, where the cataracts begin, which prevent the navigation for 70 miles: the cataracts terminate at Caninde.

Pernambuco, the capital, consists of two towns, Recife and Olinda, of which the former contains more than 60,000 and the latter about 8000 inhabitants. Recife has its name from a reef which runs along the coast about 200 yards from the shore, and constitutes the harbour of Pernambuco. The town is indifferently built, and the streets are narrow, but generally paved. In some parts there are foot-pavements of brick. Fresh water is got only at the distance of five miles, where a reservoir has been constructed. Recife is partly built on low and level ground and partly on an undulating surface. It carries on an extensive trade in the products of the province, especially in sugar, cotton, and hides. Olinda stands on a cluster of eminences about four miles from Recife. It is rather well built, has some good churches, and a university, but is not distinguished by any branch of industry. Goyana, on the river Tracunhaen, near the northern boundary, has 5000 inhabitants and some trade, as small vessels can sail up to the town. Porto Tamarandé, south of Cape Agostinho, is an excellent harbour, but very little used.

10. *Parahyba do Norte* is a small province extending along the coast about 60 miles from the river Tracunhaen to the Bay of Marcos, and about 200 miles inland. The surface is generally arid, and, with the exception of some tracts, the soil is of indifferent quality. Along the coast it is rather level, but farther inland it is hilly. It exports sugar, cotton, tobacco, and excellent fruits.

Parahyba, the capital, on the river of the same name, 12 miles from its mouth, has a harbour for small vessels, some commerce in the products of the province, and 12,000 inhabitants.

11. *Rio Grande do Norte* extends along the coast from the Bay of Marcos to Cape S. Roque northward, and thence westward to the boundary of Ciará, which is formed by a continuous ridge of hills. Its length from east to west is about 100 miles, and from south to north it extends about 100 miles. The surface is in general hilly, and not distinguished by fertility; it, however, produces much cotton. In the western districts, along the river Appody, there are several salt-lakes, in which much salt is collected: the salt is sent to the neighbouring provinces.

Natál, the capital, is built on the Rio Grande do Norte, not far from its mouth, and receives the produce of the inland districts by this river, which is navigable for 40 miles above the town. Only small vessels can sail up to the town. The place has 18,000 inhabitants and a considerable trade. The rocky island of Fernando de Noronha, which lies about 250 miles from Cape S. Roque, is 10 miles long: it is used as a place for transportation.

12. *Ciará* extends along the sea from the hilly range that separates it from Rio Grande do Norte to the Serra Ibiapaba, which divides it from Piahy: along the coast it extends 200 miles, and it stretches southwards for 300 miles to the Serra Borborema. The surface consists of high hills and wide valleys, but the soil is rather dry and sterile, except on the tops of the hills, where there is generally a rich soil covered with high trees. Some of the valleys are also fertile, especially that of the river Jaguaribe. This country suffers frequently from long droughts, but it produces much cotton and excellent fruit. The tide ascends the Jaguaribe 30 miles from its mouth, and the river is navigable to a great distance inland.

Ciará, the capital, has about 10,000 inhabitants, but very little trade. Aracati, on the Jaguaribe, about eight miles above its mouth, has a harbour for vessels of moderate size, 1,600 inhabitants, and a considerable trade; it exports cotton and hides in large quantities. Granja, on the river Camocim, 20 miles from its mouth, has lately risen into some importance as a commercial town.

13. *Piahy*, which lies west of Ciará and Pernambuco, has only a sea-coast of about 50 miles in length, between the Serra Ibiapaba and the Rio Parnahyba, but it extends in length from 3° to 9° S. lat., or more than 400 miles. The surface is rather undulating than hilly, and

towards the south there are large plains on which numerous herds of cattle pasture. The soil is not rich, but is particularly adapted for the cultivation of cotton and mandioc, which are raised to a great amount and exported. The south-western districts are still possessed by independent tribes. The Parnahyba is navigable to the confluence of the Rio Balsas, for more than two-thirds of its course, which altogether is more than 500 miles.

Oéiras, the capital, is built on a small river which falls into the Parnahyba, and contains only 1200 inhabitants. San Luiz de Parnahyba stands on the eastern mouth of the Rio Parnahyba, has 3000 inhabitants and some trade in cotton and hides.

14. *Maranhão* has a coast-line of 350 miles between the mouths of the rivers Parnahyba and Turyassu, and it extends along the first-mentioned river, which divides it from Piahy, about 400 miles southward. It comprehends the western portion of the plain of the Rio Parnahyba, and the surface is more broken and hilly than that of Piahy. It produces much cotton, rice, and mandioc. Perhaps one-half of the province is still in possession of independent tribes.

Maranhão, the capital, is built on the north-western shore of an island which bears the same name, and extends nearly 20 miles along the continent, from which it is separated by a shallow channel called Rio do Mosquito. This channel contains the embouchures of two considerable rivers, the Itapicurú, and the Miraim or Maranhão, by which the produce of the province is brought to the town. The town is tolerably well built, but badly paved, and the streets are crooked. It contains about 30,000 inhabitants, and has a great trade in cotton and hides. The harbour is good and safe, but difficult of access. Alcantara lies opposite Maranhão on the western shore of the Bay of San Marcos, and has a good harbour for coasting-vessels, and some trade. It is rather well built, and has a population of 5000 souls. Caxias, on the river Itapicurú, in a country covered with cotton plantations, has a considerable commerce, as the river from this place downwards is navigable for large boats: it contains 10,000 inhabitants.

15. *Pará*, the largest of the provinces, occupies the countries on both sides of the lower course of the Amazonas. The part which is south of the river begins at the western boundary of Maranhão on the banks of the river Turyassú, and extends westward to the lower course of the Rio Madeira. Its southern border lies in the vast wilderness which occupies the tracts where the table-land meets the Plain of the Amazonas, between 8° and 9° S. lat. Nearly the whole of it is in possession of independent tribes, and almost entirely covered with forests. The settlements of whites are only numerous in the countries adjacent to the Rio do Pará, Rio das Bocas, and the Rio Tagipurú. Farther west they occur only at great distances on the banks of the Amazonas, and especially at the mouth of its southern affluents. Nearly the whole country may be

considered as a plain, though it is known that higher tracts occur towards the southern boundary. In the agricultural settlements of the whites, sugar, coffee, cotton, caoutchouc, maize, and rice are cultivated; but numerous articles of trade are brought from the forests of the interior, as vanilla, sarsaparilla, copaivi-balsam, copal, cacao, canella do clavo, tamarinds, tonquin and pechurim beans, and several kinds of wood for dyeing or cabinet-work.

Pará or Gram Pará stands on the eastern shore of the broad estuary called the Rio do Pará, which is about seven miles wide opposite the town, but the navigable channel is winding and generally of inconsiderable dimensions. The streets are wide and straight, the houses chiefly built of stone, but low, having rarely more than two floors. The public buildings are not distinguished by architectural beauty. Twenty years ago the population amounted to 24,000, and the commerce is very great, as it is the place from which the produce of all the countries on the Amazonas and its numerous affluents is exported. Its commerce has recently extended to the very centre of South America, as European goods reach the towns of Villa Bella and Cuyaba in Matto Grosso, through Pará by the Amazonas, and its confluent the Tapajos. Braganza or Cayté is a considerable place between Maranhão and Pará, on a small river which forms a harbour for coasting-vessels. Cameta, on the Tocantins, about 30 miles above its mouth, is a thriving place with 8000 inhabitants: it trades with Pará and the province of Goyaz. Santarem, near the mouth of the Rio Tapajos, is a well-built and thriving town with 3000 or 4000 inhabitants; it has a considerable commerce with Pará, and the countries on the Tapajos and Amazonas, and even with the towns in the valley of the river Huallaga in Peru, especially Tarpoto.

That part of the province of Pará which lies north of the Amazonas extends northward to the river Oyapoc and the Sierra Acaray, which divide it from French, Dutch, and British Guayana, and westward to the river Neamunda, which separates it from the province of Rio Negro. Along the Amazonas it is low and interspersed with numerous lakes, but at a distance from the river it rises to some height. The lower tracts are wooded, but the higher tracts are chiefly woodless plains or savannas. Nearly the whole is in the possession of savage tribes, the settlements of the whites only occurring along the sea-coast and on the banks of the Amazonas, and there only at great distances from one another. Cultivation is limited to the common grains and roots of tropical countries, and cotton, jerked beef, hides, and some sarsaparilla are exported.

Macapa, on the western shores of the great mouth of the Rio Amazonas, called the Canal de Braganza do Norte, and opposite the Archipelago, which here occupies the wide expanse of the river, has about 3000 inhabitants, and exports cotton and hides. Obydos, on the Narrow

Pauxis, is the place to which the tide of the Amazonas ascends; it has above 2000 inhabitants and some trade.

The Amazonas does not form a delta at its mouth, but its wide embouchure is filled up by an archipelago of islands, which, between the Rio Pará and the Canal de Braganza do Norte, occupy a space extending 100 miles from east to west, and 150 miles from north to south. The number of islands is very great, and one of them, that of Marajo, occupies more than half of the whole space. The population of this island exceeds 10,000. North of Marajo, in the mouth of the Canal de Braganza do Norte, is the island of Caviana, which is 35 miles long and 20 wide at the broadest part: it is well stocked with cattle.

16. *Rio Negro* occupies the remainder of the countries north of the Amazonas, from the banks of the river Neamunda to the boundaries of Venezuela, New Granada, and Ecuador. Several settlements occur on the banks of the Guainia, or Rio Negro, but only a few on those of the Amazonas, and none on the other confluent of the last-mentioned river. Along the banks of the Guainia are large tracts, elevated several feet above the reach of the inundations, but the remainder of the country with very few exceptions is annually inundated, and covered with a thick alluvial soil, and tall trees. These low countries are intersected by a network of rivers and natural canals which unite the several rivers. Nearly the whole of the country is in possession of a great number of savage tribes, each of which consists of only a few families. Tobacco, coffee, and cotton are cultivated, and the forests produce sarsaparilla, cacao, canella do clavo, wax, Brazil nuts, and some gums. Fish and manteca are also sent to Pará.

Barra do Rio Negro, on the banks of the Guainia, about 4 miles above its mouth, has 3000 inhabitants, and is the depôt of the produce of the province, from which it is sent to Pará.

17. *Solimoes*, which has lately been taken from Rio Negro, and erected into a separate province, comprehends the whole country south of the Amazonas, and west of the Madeira, to the boundary of Peru. With the exception of the tracts of country contiguous to the banks of the two last-mentioned rivers, the whole province is entirely unknown; and the large tributaries of the Amazonas, the Purus, Coari, Teffé, Jutay, and Yavari, have never been ascended by Europeans. A very few settlements occur on the Madeira and Amazonas, which consist of Indians, who have been got together by a few missionaries. The sarsaparilla, vanilla, and other articles collected in the forests, together with manteca, are sent to Pará.

Ega, the capital, has nearly 3000 inhabitants, and is situated on the banks of a lake, which the river Teffé forms a few miles from its mouth. Abatinga, on the Amazonas, near the boundary of Peru, has 400 inhabitants.

18. *Matto Grosso* (Great Forest) extends over the centre of South

America, bordering on the west on Bolivia and Paraguay, and on the east on Goyaz, from which it is separated by the Araguay, an affluent of the Tocantins, and on San Paulo, which is divided from it by the Paraná. European settlements are only found in the country adjacent to the western boundary, which is drained by the rivers Guaporé and Paraguay. In the centre of the province is the sandy desert called Campos Parecis. The eastern districts on the banks of the Rio Xingó, and as far east as the Rio Araguay, include the driest and least fertile portion of the table-land of Brazil; but the tracts drained by the Guaporé and Paraguay, and their affluents, and also those which are watered by the rivers that fall into the Paraná, seem to possess a considerable degree of fertility, and are chiefly covered with lofty trees, where the forest has not been cleared for cultivation. Such cultivated tracts, however, are not numerous, nor of great extent, as the agricultural produce cannot be sold on account of the remoteness of this province from a market: they must either descend the Rio Madeira or Tapajos, and then the Amazonas to Pará, or descend the Paraguay and reach the Paraná, through the rivers Tacoari and Pardo, and thence be brought to San Paulo by the river Tieté. Both these lines of navigation considerably exceed 1000 miles in length, and are accompanied with great difficulties, owing to the numerous rapids and cataracts in the rivers. All the tropical products succeed well, but they are only cultivated so far as to supply the domestic consumption. Gold is exported to a considerable amount; diamonds are found near the sources of the Paraguay, but they are not collected; salt occurs in the Serra Aguapehy. More than nine tenths of the province are only inhabited by independent tribes, some of which are numerous, and are at war with the whites.

Villa Bella, the capital, not far from the banks of the Guaporé, has 25,000 inhabitants, and some gold mines in the vicinity. Cuyaba, on the river of the same name, which joins the Lourenço, an affluent of the Paraguay, has also some rich gold mines in the neighbourhood.

19. *Goyaz* extends from the eastern banks of the Araguay over the basin of the river Tocantins to the ridge of high land which separates the affluents of the last-mentioned river from those of the Rio San Francisco. On the south it passes the Serra dos Vertentes, and comprehends the hilly country on both sides of the Paranahyba, a confluent of the Paraná. The whole of the province lies within the table-land of Brazil, and the soil is generally dry, and in its natural state covered with coarse grass, low bushes, or stunted trees. The greatest number of settlements occur near the sources of the two great rivers Tocantins and Araguay, where gold is collected in many places; but in later times they have extended northward on the eastern banks of the Tocantins, where some tracts produce cotton, and where large herds of cattle are kept. The agricultural produce goes either by the Tocantins to Pará, or by land to Bahia; the gold finds its way to Rio de Janeiro. The greater part of

the country is in the possession of some savage tribes, which occupy the country between the Tocantins and Araguay, and the hilly tract watered by the numerous affluents of the Parahyba.

Villa Boa, the capital, is built on the river Vermelho, an affluent of the Araguay, in a country rich in gold mines: it contains 7000 inhabitants. Nossa Senhora do Pilar, farther north, is a considerable place in another mining district. Natividade, on a small affluent of the Tocantins, not far from the boundary of Pernambuco, is the most commercial place, and sends the produce of the country to Bahia.

20. *Minas Geraes* is separated from the Atlantic by the provinces of Rio de Janeiro and Espiritu Santo: it comprehends the upper basin of the Rio San Francisco, as far north as the river Carynhanha, and also the hilly country surrounding the upper course of the Rio Grande or Parana. No part of it is less than 2000 feet above the sea-level. The surface frequently rises into high hills, and in some places into mountains, but along the San Francisco there are extensive plains. It is in general moderately fertile, cotton is cultivated as an article of export, and horses and cattle, which are very numerous on the large savannas, go to Rio de Janeiro and Bahia. But its greatest commercial wealth consists in gold, diamonds, and topazes. Iron is common, and has been recently worked. The settlements do not extend to a great distance from the Rio San Francisco and its confluent, and the interminable forests which separate Minas Geraes from Espiritu Santo are the haunts of some savage tribes, among which the Botocudos are the most warlike and numerous.

Villa Rica, or Ouro Preto, the capital, stands near the mountain-summit of Itacolumi in the midst of gold mines, and has from 8000 to 9000 inhabitants. Marianna, a little farther east, has 7000 inhabitants. San Joao del Rey, in the mountainous country south of the Serra dos Vertentes, has 6000 inhabitants, and is built on the great road which passes from San Paulo to Villa Rica. Sabara, on the Rio das Velhas, an affluent of the San Francisco, has 6000 inhabitants. Among the gold mines in the vicinity are those of Congo Soco. Tejuco is the capital of the Diamond District, which comprehends a tract surrounding the sources of the Rio Jequetinhonha, north of 18° S. lat., in which diamonds abound. It has 6000 inhabitants.

6. Manufacturing industry is still in a very backward state, and much more so than in those countries of South America which were formerly under the sway of Spain. Common mechanics are only found in towns, and in the country slaves take their place. In the larger towns there are some manufactures of coaches, harness, &c., which have been recently established by foreigners. All other manufactured goods are imported from Europe.

The internal commerce, except on the navigable rivers, is much impeded in the best cultivated and most populous provinces by the want of roads, and the great difficulties of making them over the mountains and lofty

hills along the terraces which constitute the descent from the table-land to the low country along the coast. Only one of these roads, that from the port of Santos to San Paulo, is passable for carriages, and on all the others the goods must be transported on mules or horses. The coasting trade is very active, especially in the provinces north of 22° S. lat., where a few harbours, Bahia, Pernambuco, Aracati, and Maranhão, are deep enough for large vessels. The others only admit vessels of moderate draught, and the produce of the adjacent countries must therefore be sent to one of the above-mentioned harbours, where it is shipped to foreign countries.

The foreign commerce of Brazil is more extensive than that of any other country of South America. The annual exports as well as the imports are estimated to exceed 5,000,000*l*. The most important articles of export are sugar, cotton, coffee, hides, tobacco, rice, cacao, horns and horn-tips, wood for cabinet-work and dyeing, sarsaparilla, caoutchouc, and isinglass. The sugar, coffee, and rice go to the continent of Europe; and the cotton, dyewoods, rosewood, caoutchouc, sarsaparilla, and isinglass come to England. Tobacco and rum are chiefly sent to Africa. The exports from England to Brazil are, cotton and woollen articles, linen, brass and copper ware, cutlery, steel, arms and ammunition, cheese, butter, and cod; from France, articles of fashion, trinkets, dry fruits, and wine; from Germany, glass, linen, iron and brass utensils; from Portugal, wine, brandy, fruits, and hats; from the United States of North America, wheat, flour, soap, spermaceti candles, train-oil, tar, leather, boards, and ashes.

There is no commercial intercourse between Brazil and the neighbouring countries of South America by land, except that a few articles of European manufacture are sent from San Pedro do Sul to the interior of Uruguay, and to Entre Rios and Corrientes. The increasing settlements in the valley of the Rio Huallaga, in Peru, have begun to send some of their articles of produce to Ega on the Amazonas, and this trade seems to be rapidly increasing. Some Brazilian vessels go to Monte Video (in 1836 the number was 62), and to Buenos Ayres (42 in 1837), whither they import sugar, cacao, tapioca, and some other articles, and whence they bring back jerked beef and wheat.

7. The coast of Brazil was discovered by Alvares de Cabral in 1500, and afterwards partly surveyed by Amerigo Vespucci. The first settlement was formed at S. Vincenet, not far from the port of Santos, in 1531, and in the following year some other settlements were made. Bahia was founded in 1549 by Thomé de Sousa. The French formed a settlement in the Bay of Rio de Janeiro in 1555, but were expelled from it by the Portuguese in 1565, and in the last-mentioned year the town of Rio de Janeiro was built. The French again made a settlement at Maranhão in 1612, but they were expelled in 1616. From 1623 to 1654 the Dutch were in possession of nearly the whole coast of Brazil between Bahia

Pará, but they were expelled in 1654, and gave up their claims by peace of 1660. In the eighteenth century most of the gold-mines the places where diamonds are found, were discovered. Owing to theurbed state of the Peninsula during its occupation by the French, the l family of Portugal left that country for Brazil in 1807. After ce had been re-established in Europe, the King remained in Brazil l the year 1820, when a revolution occurred in Portugal, which led to return. Before the King left Brazil for Portugal, he was compelled by ial insurrections to declare that the constitution which had been adopted he Cortes of Portugal, should be in force in Brazil also. After the King's rn, the Cortes of Portugal attempted to place Brazil again on the foot-of a colony, and to make it entirely dependent on the mother country. on this, Don Pedro, the eldest son of the King, was induced by the re-entations of the Brazilians to declare Brazil independent of Portugal, to assume the title of Emperor of Brazil. This took place in 1822, from that time Brazil has constituted an independent state. In 1824 zil received a constitution according to which the government is an ditary monarchy, limited by a popular legislature. The executive er is vested in the Emperor. The legislative body consists of two mbles, a senate and a chamber of deputies. The first is chosen by Emperor, and the second by the people. The Roman Catholic faith e can be publicly professed. This constitution, however, has not rely secured public tranquillity, and many partial insurrections have n place, which are chiefly attributed to the circumstance of the greater of the population consisting of negroes.

GUAYANA, OR THE FRENCH, DUTCH, AND BRITISH COLONIES IN SOUTH AMERICA.

Name, Extent, Divisions. 2. French Guayana. 3. Dutch Guayana. 4. British Guayana, Situation, Boundaries, and Extent. 5. Surface and Soil, Mountains and Plains, Rivers and Lakes. 6. Climate and Productions. 7. Population, Inhabitants, and Commerce. 8. Political Divisions and Towns. 9. History and Government.

The name of Guayana, or Guiana, was originally applied only to countries which border on the Atlantic Ocean between the mouths of two large rivers Amazonas and Orinoco. When the interior of these ts had been explored, the name was extended as far westward as the

middle course of the Orinoco, and the banks of the rivers Cassiquiare and Guainia. Thus it comprehends the whole of the Parime Mountains, and a considerable portion of the plains of the Lower Amazonas. The greater part of this country belongs to the Empire of Brazil and the Republic of Venezuela, and only a small portion belongs to France, the Netherlands, and Great Britain; and it is to these European possessions that the name of Guayana has lately been limited: Brazilian Guayana forms a part of the province of Parà, and the Venezuelian constitutes the department of Orinoco.

2. *French Guayana*, which is also called Cayenne, extends from the river Oyapoc, which separates it from Brazil, along the coast as far west as the river Marony; the sea-coast is above 200 miles. It is considered to extend inland to the Serra Acaray, which separates the waters that flow south and north; but as the situation of that range is very imperfectly known, the southern boundary is not determined, and it is only a conjectural estimate which makes the area about 18,000 or 20,000 square miles. The mountains, which consist of the north-eastern offshoots of the Serra Acaray, approach the sea within a few miles; and the rivers, among which the Oyapoc, the Organabo, and the Marony are the largest, are full of cataracts and rapids, and very difficult to navigate. The climate is very unhealthy, owing to the swamps which cover the low tracts between the base of the mountains and the shores, and the great heat of the summer; and this unhealthiness prevents the cultivation of a fertile soil. The plantations are chiefly on the island Cayenne, which is in the mouth of the river of that name, and there are a few on the neighbouring coast and the banks of the Organabo: the remainder of the country is still abandoned to the native tribes. Besides the grains and plants cultivated in tropical countries as food, sugar, cotton, annatto, cloves, coffee, and pepper are raised as articles of export. The French have transplanted the pepper-vine, clove, and nutmeg-trees from the Indian Archipelago, and the first two thrive well. In 1834 the population consisted of not more than 22,000 individuals, of whom three-fourths were slaves. The aborigines cultivate small patches of ground, but gain their subsistence principally by fishing and hunting. In 1633 the French sent a number of persons from Martinique to settle in the country, but the colony has always remained in a backward state. In the time of the French revolution it was used as a place of deportation for persons accused of political offences.

Cayenne, the capital, is built on the northern side of the island of that name, and has a population of about 5000 souls. It exports the produce of the country, which in 1834 amounted to somewhat more than 80,000*l*. In the same year 40 vessels (4374 tons) entered the harbour, and 44 vessels (5032 tons) cleared out.

3. *Dutch Guayana*, or *Surinam*, extends along the sea-coast, between the river Marony on the east and the river Corentyn on the west. The former separates it from French and the latter from British Guayana.

posed to extend southward to the sources of these two rivers, are probably in the Serra Acaray, between 1° and 2° N. lat., but the country south of 4° N. lat. is not known. The coast-line extends 50 miles; and the area of the country is supposed to be above 50,000 miles, but only the northern half of it has been explored. Along the coast, to the distance of 8 to 12 miles inland, the country is a dead level, little elevated above the sea-level. The soil is dry and sandy, and is impregnated with salt, but well adapted to the cultivation of cotton. Beyond the flat tract the country rises higher, and chiefly consists of hills and mountains, covered with grass, and here and there with bushes; high small clumps occasionally occur; but along the rivers the country is a plain, the surface varying from half a mile to two miles is somewhat lower, and, in its natural state, is covered with large trees. The soil is mostly alluvial, and consists of a black mould, which is very fertile. In these low tracts there are numerous plantations of sugar, coffee, tobacco, and cacao. About 10 miles from the shores the country rises still higher, and the hills between the rivers are very broken, and consist of rocks, chiefly granite, with trees, but the plantations have not extended so far. Near the mountains the country assumes a mountainous character, and this is the limit of our knowledge. The rivers Marony, Surinam, Saramaca, and others are navigable to the base of the mountains, though some rapids and falls occur lower down. The climate is only unhealthy during the rains between June and August, but in general it is not more unhealthy than that of British Guayana, which in other respects it resembles. The population consists of whites, negroes, and Indians. The two former races amount to about 80,000 individuals, of whom only about one-eighth are whites, and about 60,000 negroes; the remainder consist of the mixed race. But in the mountain-region, and in some districts farther north, there is a considerable number of runaway negroes, or runaway negroes, who have formed a kind of political community, and formerly frequently attacked the settlements, but at present are at peace with the whites. The aboriginal tribes which are most numerous are the Arawaak and the Caribi or Caribs. They have attained a higher degree of civilization than the other tribes which inhabit the eastern parts of South America, and live mostly on the produce of their plantations of mandioc, maize, and plantains. Among the whites there is a considerable number of Jews, some of whom cultivate plantations in the same district. The country was first settled by some Englishmen, but in 1667 the English settlements were given up to the Dutch. In 1808 the English got possession of Surinam, but restored it to the Dutch by the peace of Paris in 1814.

Paramaribo, the capital, is situated on the western bank of the river Surinam, 18 miles from its mouth. It is regularly built in the Dutch style, with wide and straight streets, which are planted with orange-trees. The houses in general have two stories, and are of wood. Near

to it, on the northern side, is the fortress of Zelandia, in which the governor resides. The population amounts to 20,000 souls, and maintains an active commerce with Holland, to which they send the products of the country. The number of vessels employed in this trade in 1825 amounted to 71, and the value of their cargoes exceeded 500,000*l*.

4. *British Guayana* extends from the river Corentyn westward to the mouth of the river Orinoco. Neither the western nor southern limits have been settled by treaty; and very extensive districts are claimed either by Venezuela or by Brazil, and some by both governments. The western boundary-line, as claimed by the English government, extends from Point Barima, at the eastern embouchure of the Orinoco, nearly in a straight line southward to the river Cuyuny at its junction with the river Aruaria: it follows the course of the last-mentioned river to its source in the mountain-range which divides the affluents of the Orinoco from those of the Essequibo, and then runs along the crest of these mountains to the source of the river Cotinga, or Xaruma; along which river it continues to its confluence with the Rio Tocoto, an affluent of the Rio Branco, which falls into the Guaiúia or Rio Negro of Brazil. The river Tocoto constitutes the boundary up to its source; and farther south the boundary is formed by the mountain-range, which is the watershed between the Essequibo and the affluents of the Rio Branco, until it meets the sources of the Essequibo, where the Serra Acaray constitutes the southern boundary. The country included within these lines, and the river Corentyn on the east and the Atlantic on the north, is calculated to occupy 76,000 square miles, or about 10,000 square miles less than the area of Great Britain. But more than one-half of this area is claimed by Venezuela and Brazil, namely, all the country lying west of the course of the Essequibo, with the exception of a tract between the coast and the Imatoca mountains, where Venezuela admits that the Morucca river is to be considered the boundary-line. If the claims of these two states are admitted, the area of British Guayana would probably not exceed 33,000 square miles, and would be nearly equal to that of South Carolina.

British Guayana, estimated as containing 76,000 square miles, lies between 1° and 8° 40' N. lat., and between 57° and 61° W. long. It has a coast-line of more than 400 miles, running south-east and north-west.

5. The shores of British Guayana are skirted by mud-banks, which extend from 12 to 15 miles seaward, and at their outer edges are covered with from three to four feet water. They render the approach even in small boats frequently impracticable, and form numerous shoals at the mouths of the rivers. The shores are low, and on a level with the sea at high water. The soil is an alluvium of strong blue clay, highly impregnated with marine and vegetable matter. When these lands are drained, banked, and cultivated, they become consolidated, and sink a foot

below the level of the sea; and consequently it requires unremitting attention to the embankments and sluices to keep out the water. This alluvium, which is of great fertility, extends from 2 to 8 miles inland, and the greater number of settlements has been made on it. At the back of the settlements are swamps, the soil of which is composed of a black carbonaceous vegetable matter, which is sometimes six or eight feet deep, and very fertile. But between the river Corentyn and the Demerara the alluvium of the coast is in general contiguous to savannas, intersected by more fertile tracts along the watercourses. On the latter, which are generally well wooded, many settlements have been made. So far the country is level and low.

The first elevation is formed by a range of sand-hills, which traverse the whole country from south-east to north-west, and rise from 30 to 120 feet above the level plain. On the Corentyn they begin about 40 miles from the sea near Oreala, whence they run to Fort Nassau, on the Berbice, and approaching nearer the sea appear at the sources of the Mahaica River. Between the Demerara and Essequibo they are only from 10 to 20 miles from the sea. These hills consist of sand, with a slight admixture of clay, and contain many fertile spots between them. The second elevation of British Guayana cuts 5° N. lat., at a very acute angle. It consists of a chain of mountains, which begins on the west in an elevated mountain-mass, separating the affluents of the Carony, a tributary of the Orinoco, from those of the Mazaroony, a tributary of the Essequibo. It contains the Roraima Mountains ($5^{\circ} 9' 30''$ N. lat. and $60^{\circ} 47'$ W. long.), which rise 7500 feet above the sea. On the west of the Essequibo, this mountain-region appears to be of great width, and to occupy the whole tract between the course of the Mazaroony river and the Pacaraima Mountains. This last-mentioned chain properly seems to constitute the southern edge of the region: its general elevation may be between 2500 and 3000 feet above the sea-level; but in the Macarapan Mountains, at the confluence of the river Rupunoony with the Essequibo, it is 3500 feet high. The mountains north of the Pacaraima chain seem to be lower. The highest summit is probably Mount S. George, or Merume, on the Mazaroony. The northern edge of this mountain-region terminates on the banks of the Essequibo, south of the mouth of the river Potaro, with the Cooramucoo and Twansinkie Mountains, which are only about 1100 or 1200 feet above the sea. This mountain-region continues east of the Essequibo, where, however, it occupies a smaller width, hardly more than 40 miles, except on the banks of the river, where it is 60 miles from opposite the mouth of the Potaro river to the Macari Mountains ($4^{\circ} 30'$ N. lat.), which are the highest, and rise to 1100 feet. From the banks of the Essequibo eastward, the region is more contracted. On the banks of the Berbice, the northern edge, which contains Mount Itabrou (828 feet above the sea), is south of 5° N. lat., and on the Corentyn it terminates with the rocky and broken region

between the northern rapids (near 5° N. lat.) and the great cataracts (near 4° 20').

The country between the first and second elevation, or between the sand-hills and the mountain-region, has a very broken and rocky surface between the Essequibo and Demerara, but it has a strong and fertile soil, and is covered with tall trees. Farther east nearly the whole is occupied by savannas, especially between the Demerara and Berbice. The surface of the savannas is rather undulating, and clothed with nutritious grasses, interrupted by woodland tracts of small extent, and intersected by numerous brooks and springs. They would afford abundant pasture to numerous herds of cattle, but at present they are not used. Along the watercourses there are several fertile tracts, which are capable of cultivation, and some of them are cultivated. The hilly region, east of the Essequibo, is partly covered with ridges of moderate elevation and with detached conical hills, but the depressions between them are extensive, and the soil chiefly consists of a strong and fertile loam, being a mixture of clay, sand, and vegetable mould, with a little calcareous earth. It is considered to be adapted to plantations of coffee, and to the vine and olive.

That portion of British Guayana which extends from 4° N. lat. to the Serra Acaray is very imperfectly known east of the Essequibo. South of the central mountain-region, mentioned above, there extends a swampy tract on both sides of the Berbice river, which is thickly overgrown with several kinds of palm-trees, and, owing to the wetness of the soil, which is annually inundated during the rainy season, seems adapted to the cultivation of rice. The extent of this low tract is not known. In some parts it is interspersed with granite boulders. Farther south a rocky region overgrown with trees seems to extend to the chain of the Serra Acaray, which occupies the country between 1° and 2° N. lat., and in its highest summits rises to 4000 feet near the sources of the Essequibo. West of the last-mentioned river there are very extensive savannas, but they are traversed in their length by two ranges, from east to west, of which the northern and wider extends on both sides of 3° N. lat., and is called the Cannucu Mountains, and the southern, north of 2°, the Carawaimi Mountains. Neither range rises much above the savannas, but both are generally wooded. The savannas, which evidently form a portion of the immense woodless plains which surround the upper course of the Rio Branco and its affluents, have a sterile soil, and are in some places without vegetation, though generally clothed with coarse grass. The winding courses of the rivers are generally marked with a belt of trees, which, however, at a short distance from the banks either become stunted or entirely disappear. In some places tufts of trees rise like verdant isles or oases in these desert plains.

The rivers of British Guayana contain great cataracts at those places where they pass through the central mountain-region, and even farther north some rapids occur. The Essequibo has numerous cata-

racts in the upper part of its course, and they only cease at the Cooramucoo Mountains ($5^{\circ} 20'$ N. lat.). Fifty miles from its mouth, and about 10 miles south of its confluence with the Cuyuny, the last rapids occur, which prevent the tide from ascending any farther. The Demerara river forms a great cataract near $5^{\circ} 19'$ N. lat. The rapids of this river are near $5^{\circ} 40'$ N. lat. The tide extends within about 10 miles of these rapids. In the Berbice river the cataracts occur between $4^{\circ} 19'$ and $4^{\circ} 50'$, and up to this point, a distance of 165 miles from the sea, measured along the windings, the river may be ascended by vessels of seven feet draught. Vessels drawing not more than 12 feet may sail up to $5^{\circ} 20'$, upwards of 105 miles according to the course of the river. The Corentyn forms near $4^{\circ} 20'$ N. lat. a series of formidable cataracts, but it is navigable from the mouth of the river Cabalaba (near 5° N. lat.) for boats not drawing more than seven feet water, a distance of 150 miles from its mouth, measured along the windings.

The river Rupunoony traverses the savannas south of the Pacaraima Mountains, and falls into the Essequibo near 4° N. lat. By ascending this river and its small tributary Quattata, and by a portage of only 800 yards over level ground, the lake of Amucu is reached. From this lake issues the river Pirarara, which falls into the Mahu, an affluent of the Tocoto, which joins the Rio Branco. The lake of Amucu is small in the dry season, but it is a considerable lake during the rains, when a portion of the water is said to run to the Quattata. The Rupunoony, where it flows through the savannas, near the base of the Pacaraima Mountains, has no impediments to navigation.

6. Guayana has two dry and two wet seasons, but they are not so distinctly marked as in Hindustan or other tropical countries of the eastern continent. On the coast the long dry season commences towards the end of August and lasts to the end of November. It is followed by the short rainy season, from November to the middle of February, in which showers are frequent. Then comes the short dry season, which continues to the middle of April, and is followed by the long rainy season, in which the rains descend in torrents and the rivers inundate the adjacent low lands. The greatest heat occurs during the long dry season, when the mean temperature is 83° , but it is moderated by east and south-east breezes. These winds having passed over a vast extent of ocean, have acquired a coolness, which refreshes the air to such a degree, that during the night the thermometer has been known to fall to 74° . During the great rains the mean temperature is 81° , and the heat is oppressive when not moderated by northern breezes, which occur from time to time. During the short dry and wet season the mean temperature is a fraction above 80° . The mean annual temperature is 81.2° . The monthly range of the thermometer is from 8° to 12° . The change of the seasons is marked by violent thunder-storms. The climate is considered healthy, except during the rains, when certain diseases are pre-

valent. South of the mountain-region only two seasons occur. From the month of August to that of March there are only occasional showers; but from March to August the rain falls in torrents. Though the mean annual temperature of this region does not materially differ from that of the coast, the thermometer falls several degrees lower in winter and rises several degrees higher in summer. The difference between the temperature of the day and night is also greater than on the coast, where it does not exceed 8° or 10° .

In a country so favoured by climate and soil every kind of tropical products might be raised. But hitherto agriculture has been limited to a few articles of export, sugar, coffee, and cotton; and to those plants which supply food, consisting of yams, cassava or mandioc, plantains and bananas, sweet potatoes and maize. The maize is said to return sometimes 2000 fold. Many delicious fruits are indigenous, as the pineapple, guava, the marmalade fruit, the delicious fruits of the Anona tribe, the sapodilla, several species of passiflora, and the Brazil and Suwarrow nuts. The cabbage-tree is common, and there are several species of palms. The forest contains many varieties of excellent timber-trees, among which the mora (*Mimosa excelsa*) is said to be equal to the teak of the East Indies, and the green-heart (belonging to the natural family of the Laurineæ), the sawary (*Pekea tuberculosa*), the bully-tree (*Achras balata*), the sirwabally, crab-wood (*Carapa Guianensis*), and purple-heart, are adapted for naval architecture and cabinet-work, &c. There are also many vegetables, which supply cordage and substitutes for hemp and flax (Schomburgk).

The domestic animals are horses, mules, hogs, goats, and fowls. The rearing of black cattle is neglected; butter, cheese, and cattle are great articles of import; but herds of black cattle and horses graze on the savannas near the Pacaraima Mountains, where they are killed for the hides, which are sent to Brazil. Among the wild animals are the jaguar, armadillo, agouti, ant-bear, sloth, a great variety of monkeys, iguanas, alligators, and turtles. In the Essequibo and its affluents there are several kinds of large fish, which when dried supply an article of traffic in the interior. Among the birds are several kinds of parrots, mackaws, and humming-birds, the flamingo, Muscovy duck, toucan, and spoonbill. Snakes are numerous, and some of them are poisonous, as the rattle-snake: others are distinguished by size, as the boa-constrictor.

Traces of iron-ore are numerous, but no other metals have yet been found.

7. The population of British Guayana is composed of aboriginal tribes and of foreign settlers. There are still 10 native tribes, which resemble one another in stature and features, but differ in language; and this difference is so great, that tribes who live contiguous to one another speak languages which are said to be essentially distinct. In some of them a

great number of roots have a resemblance, but in others they differ greatly. These tribes do not depend on fishing and hunting for their subsistence, but cultivate patches of ground with mandioc, maize, plantains, yams, and sweet potatoes. The cotton spun by their women forms one of the principal articles of traffic among them. The number of individuals in these tribes is vaguely estimated at 7000. Those which have the most intercourse with the settlements are the Arawaaks, who live at no great distance from the coast between the Corentyn and Essequibo; and the Warraws, or Guaranos, who inhabit the sea-coast between the last-mentioned river and the Orinoco.

The foreigners settled in British Guayana are Europeans, the descendants of the Dutch and English, and negroes. The negroes were slaves up to 1838, when they were emancipated. As it was anticipated that this change would be unfavourable to cultivation, a number of Coolies were brought from Hindustan previously to the emancipation, and it is said that they bear the climate very well.

The last census of the united colonies of Demerara and Essequibo was taken in 1829, when the population consisted of 3006 whites, 6360 free coloured people, and 69,368 slaves. The last census of the population of Berbice was taken in 1833, when there were 570 whites, 1661 free coloured people, and 19,320 slaves. It is supposed that at present the whole population consists of 82,824 negroes, 8076 people of mixed race, and 4000 whites, to which the number of emigrants since 1829 is to be added, which amounts to about 3100 individuals. The emigrants are partly whites from England and Malta, and partly Coolies.

All the manufactured goods consumed in the colony are brought from foreign countries, and almost entirely from Great Britain. The produce of the country also goes almost entirely to Great Britain and the British Colonies in North America and the Columbian Archipelago. Since the emancipation of the slaves, there has been a great decrease in the exports, as the following table shows:—

Year.	Sugar in lbs.	Rum in gals.	Molasses in gals.	Coffee in lbs.	Cotton in lbs.
1836	107,806,249	2,980,296	4,035,569	5,875,732	656,902
1838	88,664,885	2,068,052	3,132,675	3,143,543	641,920
1839	63,487,424	1,442,550	2,188,772	1,593,232	551,325

The value of the exports in 1836 was estimated at 2,135,379*l.* sterling, but in 1839 the value hardly exceeded 1,000,000*l.* sterling. Besides these staple productions, some minor articles are exported, among which the principal are arrow-root, indigo, and liqueurs. The average number of vessels which annually enter the ports of the colony was, between 1831 and 1836, nearly 600, and their tonnage about 88,000;

but the tonnage is supposed to be now reduced by an amount lying somewhere between 10,000 and 20,000 tons.

8. British Guayana, as now constituted, consists of Demerara, Essequibo, and Berbice. The settlements consist of plantations of one single depth only along the sea-coast and extending a short way up the rivers. Some few are found on the banks of the rivers a considerable distance from the sea, but they have no plantations, and are only made for cutting timber.

Georgetown, the capital, formerly called Stabroek, is built on the east bank of the river Demerara, which is here nearly a mile wide. The harbour formed by the mouth of the river is safe but not of easy access, as a bar of mud extends four miles out to sea, over which no vessel drawing more than nine feet can pass until half-flood; the channel along the eastern shore has nineteen feet of water at high tide. The streets of the town are wide and traversed by canals; the houses are of wood and seldom above two stories high; they are generally surrounded by a garden or large trees, and separated from each other by canals or trenches. The public building, which comprises all the public offices, is a large edifice. There are churches for the principal denominations of Christians, and two public schools. The population is stated to amount to 20,000 souls, of which 16,000 are coloured people. This town is the commercial depôt of the produce of the countries adjacent to the Essequibo and Demerara, and its commerce is considerable. In 1838 the number of vessels that entered the port was 536, of those which cleared out 539. New Amsterdam, on the Berbice, extends about a mile and a half along the river, and is intersected by canals. The harbour is good, but difficult of access. In the mouth of the river is Crab Island, which divides the river into two navigable channels, of which the eastern has seventeen to twenty feet, and the western only eight to thirteen feet at high water; a bar also lies across the mouth of the river, over which there are only seven feet of water at low tides. In 1833 the population amounted to 2900 persons. From this town is exported the produce of the plantations on the rivers Berbice and Corentyn.

9. Guayana was discovered by Columbus on his third voyage, 1498, when he reached the mouth of the Orinoco. The first settlement was formed by the Dutch in 1580 on the river Pomeroon, and called New Zealand, whence they spread eastward to the Essequibo and Demerara, but the progress of the colony was slow. In 1781 it was taken by Sir George Rodney, but it was restored to the Dutch in 1783. In 1796 it again surrendered to the English, and was again restored to the Dutch by the peace of Amiens (1801). It was taken for the last time by the British in 1803, and has since remained in their possession. In 1831 the colonies of Essequibo, Demerara, and Berbice were united into one colony, named British Guayana, and in 1838 the slaves were emancipated.

The government is vested in a governor, assisted by a supreme court or colonial parliament. This parliament is composed of the

governor, the chief-justice, attorney-general, the collector of the customs, and government secretary, to whom are added an equal number of persons elected from the colonists by the college of the electors or *kiezers*. This college consists of seven members, elected by the inhabitants of the colony for life. When a vacancy occurs in the colonial parliament, the college of *kiezers* nominates two candidates, of whom the colonial parliament selects one as a sitting member. The members of the parliament who are elected serve for three years, and go out by rotation. Every member of this legislative body has a vote, and the governor has a casting vote. He has also an absolute veto on all laws and ordinances which have been passed by a majority.

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London: Printed by W. CLOWES and SONS, Stamford Street.





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